Fast and Focused Search November 23, 2004

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CAS/STN FILE 'WPIX; HCAPLUS' ENTERED AT 12:34:03 ON 23 NOV 2004
L1             7  S   (US5239942 OR US5111768 OR US4191125 OR
                   US4148748 OR US4145918 OR US4457252)/PN
L2                 SEL PLU=ON  L1 1- IC RN :       7 TERMS
L3         35280  S   L2
L4             7  S   L1 AND L3
L5                 SEL PLU=ON  L4 1- PN :      12 TERMS

     FILE 'DPCI' ENTERED AT 12:35:36 ON 23 NOV 2004
L6            37  S   L5/PN.D
L7                 SEL PLU=ON  L6 1- PRN :      48 TERMS

     FILE 'WPIX, JAPIO, TULSA, HCAPLUS' ENTERED AT 12:36:09 ON 23 NOV 2004
L8            58  S   L7
L9             2  S   L8 AND LATEX
L10           15  S   L8 AND (AQ OR AQUEOUS OR WATER OR H2O)
L11            0  S   L8 AND (?BACTER? OR MICROORGANISM? OR ORGANISM)
L12           10  S   L8 AND (IRREVERS? OR NONREVERS? OR NON(W)REVERS##########)
L13           23  S   (L9 OR L10 OR L11 OR L12)
L14            2  S   L9 AND (L10 OR L11)
L15            0  S   L9 AND L10 AND L11
L16            2  S   L8 AND SALINE
L17           23  S   L13 OR L14 OR L16
L18       590555  S   (CRITICAL TEMPERATURE OR TEMPERATURE(2A)(TH
                   RESH######### OR LIMIT OR UPPER######## OR CHANG######## OR
                   INCREAS####### OR ELEVAT####### OR RAIS#### OR ROSE OR RISEN))
L19        46569  S   L18 AND INDICAT##########/TI,ST,IT,AB
L20         9490  S   L19 AND (AQ OR AQUEOUS OR WATER OR H2O)
L21         1095  S   L19 AND (?BACTER? OR MICROORGANISM? OR ORGANISM)
L22          743  S   L19 AND (IRREVERS? OR NONREVERS? OR NON(W) REVERS##########)
L23            1  S   L20 AND L21 AND L22
L24       114731  S   L18 AND (AQ OR AQUEOUS OR WATER OR H2O)
L25         7482  S   L18 AND (BACTER######## OR MICROORGANISM? OR ORGANISM)
L26         2554  S   L24 AND L25
L27          806  S   L24 AND LATEX?
L28            7  S   L26 AND LATEX?
L29            6  S   L26 AND (INA OR ICE NUCLEAT#######)
L30            6  S   L24 AND L25 AND (INA OR ICE NUCLEAT#######)
L31           13  S   (L28 OR L29 OR L30)

     FILE 'HCAPLUS' ENTERED AT 12:51:46 ON 23 NOV 2004
                E LATEX/IT
L32       437260  S   LATEX/CT OR LATEX OR RUBBER OR ELASTOMER?

     FILE 'REGISTRY' ENTERED AT 12:52:37 ON 23 NOV 2004
L33          140  S   LATEX
L34           15  S   ELASTOMER
L35          919  S   RUBBER

     FILE 'HCAPLUS' ENTERED AT 12:53:15 ON 23 NOV 2004
                E MICROORGANISMS/CT
L36       409255  S   MICROORGANISM OR MICRO ORGANISM OR BACTERIUM OR BACTERIA
L37         3437  S   (L32 OR L33 OR L34 OR L35) AND L36
L38         1079  S   L37 AND (AQ OR AQUEOUS OR WATER OR H2O)
L39            0  S   L38 AND (INA OR ICE(W)NUCLEAT#########)
L40            0  S   L37 AND (INA OR ICE(W)NUCLEAT#########)
L41          150  S   L38 AND TEMPERATURE
L42           98  S   L38 AND INDICAT########
L43           18  S   L41 AND L42
L44           25  S   (L38 OR L39 OR L40 OR L41 OR L42 OR L43)
                   AND (TRANSPAREN####### OR TRANSLUCEN####### OR OPAC######## OR OPAQ#########)
L45           24  S   L44 NOT L43
L46         1515  S   (L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR
L37 OR L38) AND (FREEZ######## OR REFREEZ? OR REFROZ? OR FROZEN)/TI
L47         1633  S   (L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR
L37 OR L38) AND THAW#########
L48          327  S   L46 AND L47
L49          187  S   (L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR
                   L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR L36 OR L37 OR L38) AND THAW#########/TI
L50          167  S   L48 AND L49
L51           69  S   L50 AND TEMPERATURE
L52            3  S   L50 AND CRITICAL
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L53           2  S   L50 AND THRESH##########
L54           3  S   L50 AND LIMIT######
L55           2  S   L50 AND UPPER########
L56           5  S   L51 AND (L52 OR L53 OR L54 OR L55)
L57       72413  S   THERMOMETERS OR INDICATORS
L58          32  S   (L44 OR L45 OR L46 OR L47 OR L48 OR L49 OR
                 L50 OR L51 OR L52 OR L53 OR L54 OR L55 OR L56) AND L57
L59          31  S   L58 NOT L56
L60          29  S   L59 NOT L45
L61          28  S   L60 NOT L43
L62          12  S   L61 AND (THRESH######## OR CRITICAL OR THAW#######)

     FILE 'FROSTI, FSTA' ENTERED AT 13:08:51 ON 23 NOV 2004
L63         898  S   LATEX####
L64         248  S   INA OR ICE(W) NUCLEAT#########
L65      140877  S   MICROORGANISM OR MICRO ORGANISM OR BACTERIUM OR BACTERIA
L66         402  S   (CRITICAL OR THRESH######## OR LIMIT##### OR UPPER#####)(3A)(THERMOMET###### OR TEMPERATURE)
L67          87  S   (WATER OR AQ OR AQUEOUS OR H2O OR SALINE OR SOLVENT) AND L66
L68       18929  S   (WATER OR AQ OR AQUEOUS OR H2O OR SALINE OR SOLVENT) AND L65
L69          79  S   (WATER OR AQ OR AQUEOUS OR H2O OR SALINE OR SOLVENT) AND L64
L70         123  S   (WATER OR AQ OR AQUEOUS OR H2O OR SALINE OR SOLVENT) AND L63
L71          15  S   L67 AND L68
L72           0  S   L67 AND L69
L73           0  S   L67 AND L70
L74          38  S   L68 AND L69
L75          34  S   L68 AND L70
L76           0  S   L69 AND L70
L77          87  S   (L71 OR L72 OR L73 OR L74 OR L75)
L78           0  S   L77 AND (OPAC####### OR OPAQ###### OR TRANSPAREN###### OR TRANSLUCEN####)
L79           2  S   L77 AND (COLOR##### OR COLOUR######)
L80          12  S   L77 AND INDICAT#######
L81           2  S   L77 AND THAW########
L82         207  S   (L66 OR L67 OR L68 OR L69 OR L70) AND THAW#######
L83           2  S   L82 AND THERMOMETER
L84           3  S   L82 AND TEMPERATURE(2A)(INDICAT###### OR CRITICAL### OR THRESH######)
L85           3  S   L82 AND (IRREVERS###### OR NONREVERS###### OR NON REVERS#####)
L86           2  S   L77 AND L82
L87           0  S   L74 AND L75
L88          37  S   L71 OR (L79 OR L80 OR L81) OR (L83 OR L84 OR L85 OR L86)
L89          37 DUP REM L88 (0 DUPLICATES REMOVED)
L90        2814  S   FREEZ###(2A) THAW#####
L91         301  S   (L63 OR L64 OR L65 OR L66 OR L67 OR L68 OR L69 OR L70 OR L71 OR L72 OR L73 OR L74 OR L75 OR
L76 OR L77 OR L78 OR L79 OR L80 OR L81 OR L82) AND L90
L92         295  S   L91 NOT L89
L93          11  S   L92 AND (RUBBER OR ELASTOMER##### OR WAX OR LATEX##### OR POLYMER##### OR PLASTIC OR
THERMOPLASTIC######)
L94          11  S   L93 NOT L89

     FILE 'MEDLINE' ENTERED AT 13:20:23 ON 23 NOV 2004
L95         680  S   CRITICAL TEMPERATURE
L96         244  S   THRESH######## TEMPERATURE
L97        3982  S   THERMOMET?
L98        5019  S   FREEZ?(3A)THAW?
L99        9781  S   THAW#######
L100      15031  S   LATEX####
L101       1726  S   INA OR ICE(W)NUCLEAT#########
L102      14536  S   (TEMPERATURE OR THERMOMET?) AND (RUBBER OR ELASTOMER##### OR WAX OR LATEX##### OR POLYMER#####
OR PLASTIC OR THERMOPLASTIC######)
L103        272  S   (L95 OR L96 OR L97 OR L98 OR L99) AND (L100 OR L101 OR L102)
L104          7  S   L103 AND (BACTERIUM OR BACTERIA)
L105          9  S   L103 AND ?ORGANISM?
L106         13  S   L104 OR L105
L107        254  S   ((L95 OR L96 OR L97 OR L98 OR L99)) AND (L100 OR L102)
L108          8  S   L107 AND (BACTERIUM OR BACTERIA OR ?ORGANISM?)
L109          0  S   L107 AND L101
L110          4  S   L107 AND INDICATOR
L111          2  S   (L108 OR L109 OR L110) NOT L106

     FILE 'CABA, BIOSIS, AGRICOLA' ENTERED AT 13:26:31 ON 23 NOV 2004
L112       1849  S   CRITICAL TEMPERATURE
L113       1719  S   THRESH######## TEMPERATURE
L114         38  S   (L112 OR L113) AND THAW#######
L115          0  S   (L112 OR L113) AND REFROZ#######
L116          0  S   (L112 OR L113) AND REFREEZ#######
L117        172  S   (L112 OR L113) AND (FREEZ####### OR FROZEN)
L118         12  S   (L112 OR L113) AND (INA OR ICE(W) NUCLEAT#######)
L119         27  S   L114 AND L117
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L120          0  S   (L114 OR L115 OR L116 OR L117) AND THERMOMET?
L121         35  S   (L114 OR L115 OR L116 OR L117) AND INDICAT?
L122         76  S   L114 OR (L118 OR L119 OR L120 OR L121)
L123          0  S   L122 AND LATEX
L124          0  S   L122 AND RUBBER######
L125          0  S   L122 AND PLASTIC?
L126          0  S   L122 AND THERMOPLASTIC?
L127          0  S   L122 AND ELASTOMER?
L128          0  S   L122 AND POLYMER##
L129          1  S   L118 AND L119
L130          1  S   L118 AND L121
L131         28  S   L114 AND (L118 OR L119 OR L120 OR L121)
L132         12  S   L118 OR (L129 OR L130)
L133          1  S   L131 AND L132
L134          0  S   (L131 OR L132) AND THERMOMET?
L135         39  S   (L131 OR L132) AND TEMPERATURE
L136          0  S   (L131 OR L132) AND INDICATOR
L137          9  S   (L131 OR L132) AND INDICAT########
L138          9  S   L135 AND L137

     FILE 'INSPEC, NTIS, JICST-EPLUS, BIOSIS, CABA, MEDLINE, EMBASE, FSTA,
     FROSTI' ENTERED AT 13:34:33 ON 23 NOV 2004
L139     102592  S   (TEMPERATURE OR THERMOMET########) AND
                 (PSEUDOMONAS OR PSEUDOMONADACEAE OR SYRINGAE OR BACTERIUM OR BACTERIA)
L140        522  S   L139 AND (INA OR ICE(W) NUCLEAT####### OR
                 NUCLEAT####(W)(AGENT OR ACTIV####))
L141         41  S   L140 AND (CRITICAL OR THRESH########)
L142         14  S   L140 AND THAW########
L143          0  S   L141 AND L142
L144          1  S   (L141 OR L142) AND (LATEX OR RUBBER### OR
                 WAX### OR ELASTOMER? OR POLYMER## OR PLATIC OR THERMOPLASTIC)
L145         55  S   L141 OR L142
L146          1  S   L145 AND (LATEX OR RUBBER### OR WAX### OR
                 ELASTOMER? OR POLYMER## OR PLASTIC OR THERMOPLASTIC)

     FILE 'SCISEARCH' ENTERED AT 13:41:13 ON 23 NOV 2004
                 E RYDER/AU

     FILE 'BIOSIS, INSPEC, MEDLINE, COMPENDEX, FSTA, FROSTI' ENTERED AT
     13:42:39 ON 23 NOV 2004
                 E RYDER J/AU
L147         42  S   "RYDER J M"/AU
L148          4  S   L147 AND TEMPERATURE
L149          0  S   L147 AND THEMOMET?

     FILE 'WPIX, JAPIO, TULSA, HCAPLUS' ENTERED AT 13:45:02 ON 23 NOV 2004
L150             SEL PLU=ON  L17 1- PN :      85 TERMS

     FILE 'DPCI' ENTERED AT 13:45:52 ON 23 NOV 2004
L151        130  S   L150/PN.D
L152             SEL PLU=ON  L151 1- PRN :     210 TERMS

     FILE 'WPIX, JAPIO, TULSA, HCAPLUS' ENTERED AT 13:46:20 ON 23 NOV 2004
L153        292  S   L152
L154         48  S   L153 AND LATEX
L155          4  S   L153 AND WAX
L156          3  S   L153 AND RUBBER
L157          4  S   L153 AND ELASTOMER########
L158         52  S   L153 AND POLYMER##
L159         13  S   L153 AND PLASTIC
L160          3  S   L153 AND THERMOPLASTIC
L161        100  S   (L154 OR L155 OR L156 OR L157 OR L158 OR L159 OR L160)
L162          0  S   L161 AND (INA OR ICE(W) NUCLEAT####### OR  NUCLEAT####(W)(AGENT OR ACTIV####))
L163          4  S   L153 AND (INA OR ICE(W) NUCLEAT####### OR  NUCLEAT####(W)(AGENT OR ACTIV####))
L164         14  S   L153 AND (ORGANISM OR MICROORGANISM OR  BACTERIA OR BACTERIUM)
L165          9  S   L161 AND L164
L166         39  S   L161 AND (WATER OR H2O OR AQ OR AQUEOUS)
L167         18  S   (L163 OR L164)
L168          5  S   L166 AND L167
L169          8  S   (L155 OR L156 OR L157)
L170         28  S   L160 OR L163 OR L164 OR L165 OR L167 OR L168 OR L169
L171         23 DUP REM L170 (5 DUPLICATES REMOVED)
L172        127  S   KLT OR KLT/PA,CS
L173         26  S   L172 AND TEMPERATURE
L174          0  S   L172 AND THERMOMET?
L175          0  S   L172 AND THAW######
L176          4  S   L172 AND (FREEZ? OR FROZ###### OR REFREEZ###### OR REFROZ####)
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L177 4 S L173 AND L176

L171 ANSWER 10 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1993-058203 [07] WPIX
CR 1992-064340 [08]
DNC C1993-025968
TI **Production of time-temperature indicators for stored prods.** - by mixing acid generating mixture of reagent e.g. **yeast** and substrate e.g. tri acetin with base generating mixture of reagent e.g. urease and substrate e.g. urea and pH sensitive dye.
DC D14 J04
IN JALINSKI, T J
PA (MAYC) MAYER FOODS CORP OSCAR
CYC 1
PI US 5182212 A 19930126 (199307)* 10 G01N031-00
ADT US 5182212 A Div ex US 1991-648712 19910131, US 1991-780672 19911018
FDT US 5182212 A Div ex US 5085802
PRAI **US 1991-648712 19910131; US 1991-780672 19911018**
IC ICM G01N031-00
AB US 5182212 A UPAB: 19931114
Production is effected by mixing an acid-generating mixture of reagent (I) and substrate (II) with a base-generating mixture of reagent (III) and substrate (IV), and at least one pH-sensitive dye, to form an **aqueous** solution.
(II) is present in a stoichiometric excess over (IV), so that the mixture is buffered to a stable pH until (IV) is consumed, so that the mixture becomes acidic and the **dye changes colour** after a predetermined time at normal storage temperature or after a shorter time on exposure to elevated temps..
Reagent (I) is pref. an enzyme-producing **microorganism**, which is shock-treated before adding the dye. A sheet material is impregnated with the **aqueous** solution and sealed in a **thermoplastic** pouch.
ADVANTAGE - The indicators give a distinct end point and contain no toxic organic solvents.
Dwg.0/0
FS CPI
FA AB
MC CPI: D03-H02A; J04-C02; J04-X

L89 ANSWER 28 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 248882 FROSTI
TI Way to safer storage.
AU Anon.
SO Meat Industry, 1990, 63 (3), 7
DT Journal
LA English
AB Johnson Matthey has developed a cheap and simple tag system for gauging whether frozen or chilled food has **thawed** or been exposed to the **critical temperatures** at which Salmonella and Listeria multiply. For use principally in the home and during transportation, the tag, named **Time-Tag, operates through an electrochemical reaction, causing a progressive colour change.**
CT ABUSE; CHILLED FOODS; DETERIORATION; FROZEN FOODS; INDICATION; INDICATION EQUIPMENT; SHELF LIFE; SPOILAGE; STORAGE; TEMPERATURE; **TEMPERATURE INDICATORS; THAWING**; TIME; TIME INDICATORS; TIME TAG; TIME **TEMPERATURE INDICATORS**
DED 12 Jul 1990

1 OF 13 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2003-315735 [31] WPIX
DNC C2003-083045
TI Porous film used in chemical or biochemical reactor for performing chemical transformation, includes blend of non-film forming material, and film forming polymers.
IN BROWN, A B; GEBHARD, M S; LESKO, P M; YOUNG, D H
PA (ROHM) ROHM & HAAS CO; (BROW-I) BROWN A B; (GEBH-I) GEBHARD M S; (LESK-I) LESKO P M; (YOUN-I) YOUNG D H
PI EP 1199329 A2 20020424 (200331)* EN 13 C08J005-18
AU 2001079351 A 20020502 (200331) C08J009-28
CA 2358274 A1 20020419 (200331) EN C08J005-18
CN 1350025 A 20020522 (200331) C08J005-18
JP 2002161164 A 20020604 (200331) 13 C08J009-28
US 2002071867 A1 20020613 (200331) C08J009-34

US 6750050 B2 20040615 (200439) C12N011-08
US 2004197387 A1 20041007 (200466) A61K009-70
PRAI US 2000-241603P 20001019; US 2001-965377 20010927;
US 2004-832680 20040427
AB EP 1199329 A UPAB: 20030516
NOVELTY - A porous film comprising a blend of a non-film forming material, and a film forming polymers (5-35 %, by volume), is new. The film has a network of pores or channels, and is non-friable.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a process for producing porous films comprising depositing the blend in a liquid state on a substrate, and evaporating a carrier medium below 100 deg. C.

USE - The porous film is used in chemical or biochemical reactor for performing chemical transformation. The films are applied using printing processes which can be flexographic printing, gravure printing, ink jet printing, or laser printing. (All claimed).

ADVANTAGE - The film has permanent pore structure, and retains porosity at **elevated temperatures**. It has an improved adsorbent performance, and a potential for sustained release of reaction products from entrapped **organisms** or immobilized cells. Dwg.0/0

TECH EP 1199329 A2 UPTX: 20030516
TECHNOLOGY FOCUS - POLYMERS - Preferred Component: The film forming polymer comprises **water**-borne **latex** dispersion particles having diameters of not more than 20 % of the largest dimension of the non-film forming material. The non-film forming material can be acrylic **latex** polymers, hollow polymer particles, core-shell polymers, acrylic polymers, polymer encapsulants, and/or large dimension emulsion polymers.
Preferred Property: The porous film maintains porosity at at most 160 degrees C, in which the film forming polymer has a glass transition temperature (Tg) of not more than 30 degrees C, and the non-film forming material has a Tg of at least 30 degrees C.
Preferred Method: Two porous films are prepared, in which each film comprises a different catalyst and the films are in intimate contact with each other.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Component: The non-film forming material may comprise inorganic compositions such as inorganic oxides, aluminosilicates, silicates, and/or carbonates, or inorganic compositions with adsorbed compounds.

TECHNOLOGY FOCUS - BIOLOGY - Preferred Component: Catalysts such as chemical catalysts, **bacteria**, yeast, fungi, plant algal, and/or mammalian cells, are entrapped within the film.

ABEX EP 1199329 A2 UPTX: 20030516
EXAMPLE - A mixture of hot deionized water (1070 g), sodium persulfate (3), and 100 nm latex seed (44), was prepared. A monomer emulsion composed of deionized water (425 g), sodium dodecyl benzene sulfonate (23.5) styrene (1428), divinyl benzene (36), and methacrylic acid (36), was prepared. Gradual addition of the monomer was begun as well as gradual addition of sodium persulfate (6) in deionized water (180). The reaction was maintained at 85 degrees C. Solutions of ferrous sulfate heptahydrate (0.015) in deionized water (80), tert-butylhydroperoxide (3.85) in deionized water (80), and isoascorbic acid (5.95) in deionized water (80), were added. Dilute aqueous sodium hydroxide solution was added. The reaction mixture was cooled and the product was filtered. The final latex had a solid content of 45.7 % and a particle size of 348 nm. This latex was blended with a prepared emulsion polymer at a ratio of 95/5. Results showed that porous films produced were crack free and were non-friable.

KW [1] 102231-0-0-0 CL; 184613-0-0-0 CL; 200757-0-0-0 CL
FS CPI

L56 ANSWER 1 OF 5 HCAPLUS COPYRIGHT ACS on STN
AN 2004:885859 HCAPLUS
DN 141:331102
ED Entered STN: 26 Oct 2004
TI **Thawing** indicators and **thawing**-duration indicators for use with **frozen** food packaged in individual containers
PA Janvier, Auguste, Belg.
SO Belg., 13 pp.
CODEN: BEXXAL
DT Patent
LA French
IC ICM B65D079-02
ICS G01K003-04; G01N031-22

CC 17-4 (Food and Feed Chemistry)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI BE 1014116	A7	20030506	BE 2001-247	20010410
PRAI BE 2001-247		20010410		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
BE 1014116	ICM	B65D079-02
	ICS	G01K003-04; G01N031-22
BE 1014116	ECLA	B65D079/02; G01K003/04; G01N031/22L

AB Indicator capsules are added to packaged frozen foods to alert consumers when the items have been exposed to inappropriate **temps**. or **thawed** for extended periods under conditions that could promote the growth of **microorganisms** responsible for food poisoning. Thus, two capsules formed from inelastic polymer and each sealed with aluminum foil at the base, are filled with a mixture (e.g., **water** -alc. containing a food dye) that has a f.p. corresponding to a preselected **critical temperature** for food storage. The filling orifices of the capsules are sealed over and the capsules are fixed together base to base so that an increase in pressure in one capsule causes a corresponding increase in pressure in the other. **Thawing** of the mixture within the capsules and consequent dilation and increased pressure causes leakage through the orifices on to hygroscopic material (e.g., starch) exterior to the capsules. **Thawing**-duration indicators may be constructed with indicator disks that absorb color at a relatively slow rate.

ST **thawing** indicator frozen food package

IT Freezing
(-**thawing**; **thawing** indicators and **thawing**
-duration indicators for use with frozen food packaged in individual containers)

IT Food
(dyes; **thawing** indicators and **thawing**-duration
indicators for use with frozen food packaged in individual containers)

IT Dyes
(food; **thawing** indicators and **thawing**-duration
indicators for use with frozen food packaged in individual containers)

IT Capsules
Food packaging
Food preservation
Frozen foods
Thermometers
(**thawing** indicators and **thawing**-duration indicators
for use with frozen food packaged in individual containers)

L4 ANSWER 1 OF 7 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1993-287222 [36] WPIX
DNN N1993-220928
TI Freeze indicator for indicating product temperature - coats inner surface of blister containing ampoule containing liquid which expands upon freezing with absorbent layer comprising binder wettable by liquid and filler..
DC S03
IN IGNACIO, R T; LARSSON, R P
PA (PYMA-N) PYMAH CORP
CYC 1
PI US 5239942 A 19930831 (199336)* 11 G01K005-32 <--
ADT US 5239942 A US 1992-881027 19920511
PRAI US 1992-881027 19920511
IC ICM **G01K005-32**
AB US 5239942 A UPAB: 19931122
The freeze indicator includes a frangible ampoule containing a liquid which expands upon freezing, a dye soluble in the liquid and a nucleating agent. The nucleating agent and the liquid have substantially similar space groupings. The ampoule is enclosed within a blister of transparent film. The blister is adhered to a backing and the inner surface of the blister is coated with an absorbent layer comprising a binder wettable by the liquid and a filler.
Upon rupture of the ampoule the liquid containing dye is absorbed by the absorbent layer, causing a colour change in the absorbent layer visible through the transparent film.
USE/ADVANTAGE - Provides precise information that product has been exposed to low temperature e.g. freezing point of water. Dwg.5/5
FS EPI
FA AB
MC EPI: S03-B01D; S03-B01X

L4 ANSWER 2 OF 7 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1992-182507 [22] WPIX
DNN N1992-137738 DNC C1992-083611
TI Freeze indicator - comprises frangible ampoule containing a nucleating agent and poison inhibitor.
DC E37 G04 S03
IN LARSSON, R P; LEVENDUSKY, G T
PA (PYMA-N) PYMAH CORP
CYC 1
PI US 5111768 A 19920512 (199222)* 8 G01K005-32 <--
ADT US 5111768 A US 1991-712335 19910607
PRAI US 1991-712335 19910607
IC ICM **G01K005-32**
ICS **G01N031-00**
AB US 5111768 A UPAB: 19931006
Freeze indicator comprises a frangible ampoule containing a liquid (I) which expands on freezing to break the ampoule and a nucleating agent (II). Agent (II) is a metal cpd. insol. in (I) and has similar molecular space groupings thereto. A soluble salt of the same metal as present in (II) is also included in (I) as a poison inhibitor for agent (II). Pref. cupric, ferrous, molybdenum or tungsten sulphides or silver or cuprous iodides are (II) and inhibitor is e.g. cupric sulphate, ferrous sulphate or molybdenum tetrabromide etc., Pref. (I) is H2O or D2O. An alternative indicator comprises (I) and (II) which is a metal cpd. with a solubility in liquid (I) of 0.15 -1 weight% together with an indicator pad e.g. an adsorbent material containing a H2O soluble dye to provide a visual indication of freezing.
USE/ADVANTAGE - Indicator provides information that prods. have been exposed to low temps. e.g. near freezing pt. of H2O. Presence of (II) eliminates undercooling effect of liquid (I) and poison inhibitor means effectiveness of (II) over extended time periods. 1/4
FS CPI EPI
FA AB; GI; DCN
MC CPI: E31-P02D; G04-B09
EPI: S03-B01D; S03-E01A
CMC UPB 19930924
M3 *01* A426 A429 A430 A542 A547 A940 C009 C017 C035 C053 C100 C108 C116 C316 C540 C730 C801 C802 C803 C804 C805 C806 C807 M411 M782 M903 M904 Q432 Q505
DCN: R01703-M; R01721-M; R01729-M; R01759-M; R01795-M; R03311-M; R23041-M
DCN: 9222-E9501-M

L4 ANSWER 3 OF 7 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1984-160030 [26] WPIX
DNN N1984-119009 DNC C1984-067487
TI Volume reduction critical temperature indicator - using thermometer-like device containing organic ester(s) separated by movable plug.
DC E19 J04 S03
IN MANSKE, W J
PA (MINN) MINNESOTA MINING & MFG CO
CYC 9
PI EP 112023 A 19840627 (198426)* EN 14
R: CH DE FR GB IT LI SE
US 4457252 A 19840703 (198429) <--
CA 1204028 A 19860506 (198623)
EP 112023 B 19880824 (198834) EN
R: CH DE FR GB IT LI SE
DE 3377810 G 19880929 (198840)
ADT EP 112023 A EP 1983-306798 19831108; US 4457252 A US 1982-440264 19821109
PRAI US 1982-440264 19821109
REP A3...8522; No-SR.Pub; US 2785132; US 3090236; US 3399284; US 3889658
IC **G01K011-06**
AB EP 112023 A UPAB: 19930925
An indicator (2) to show if a temperature has decreased below a critical value comprises a hollow bulb (4) and a capillary (6); (4) contains a colourless liquid (10) which extends into (6) and is capable of freezing with a reduction in volume, while a second liquid (12) which may be dyed and which is miscible with and has a lower freezing pt. than (10) fills the remainder of (6) apart from a separating means (14) interposed between (10) and (12) to prevent mixing, (14) having less volume than (4) so that if (10) freezes (14) and part of (12) are drawn into the bulb (4) to give a visual indication which is improved if (12) is dyed.

Blood, pharmaceutical and food liqs. which have to be stored chilled may be damaged by freezing and this indicator shows such an event. 1/3

ABEQ EP 112023 B UPAB: 19930925
A critical temperature indicator (2) comprising a hollow bulb (4), a capillary tube (6) communicating with the bulb (4), first and second liquids (10,12) and superating means (14) interposed between the first and second liquids for preventing mixing thereof within the tube (6), characterised in that the first liquid (10) is a colourless liquid filling the bulb (4) and extending into the tube (6) and which is capable of solidification and exhibits the property of volume reduction upon solidification, and in that the second liquid (12) is located within the tube (6), is miscible with the first liquid (10) and has a solidification temperature lower than that of the first liquid (10) and in that the total volume of the first liquid (10) upon solification and said separating means (14) are less that the volume of the bulb (4) so that the separating means (14) and at least a portion of the second liquid (12) is drawn into the bulb (4) upon solidification of the first liquid (10) to provide a visual indication that the first liquid (10) has solidified.

ABEQ US 4457252 A UPAB: 19930925
Critical temp. indicator comprises a hollow bulb communicating with a capillary tube. A colourless first liq. fills the bulb and extends into the tube. This liq. can solidify and exhibits vol. redn. upon solidification. A second liq. located in the tube is miscible with the first liq. and has solidification temp. below that of the first liq.. Sepg. means interposed between the two liqs. prevents their mixing within the tube.

ADVANTAGE - On solidification, the vol. of the first liq. shrinks such that its vol. plus that of the sepg. means is less than the bulb vol.. Some of the second liq. enters the bulb to provide visual irreversible indication that the first liq. has solidified. The liqs. may be fatty acid esters.

FS CPI EPI
FA AB
MC CPI: E05-G09C; E10-G02F; E10-G02H; J04-B01; J04-C02
EPI: S03-B01X
DRN 0981-U
CMC UPB 19930924

L4 ANSWER 4 OF 7 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1980-19979C [11] WPIX
TI Accurate and reliable freeze indicator - comprising a frangible container holding a liquid, nucleating agent and surfactant.
AW POLYOXYETHYLENE SORBITAN MONO OLEATE.
DC A97 E37 G04 S03
IN JOHNSON, C D
PA (ALKU) AKZONA INC
CYC 2
PI US 4191125 A 19800304 (198011)* <--
CA 1111716 A 19811103 (198149)
CA 1118646 A 19820223 (198212)
PRAI US 1978-921940 19780703
IC **G01K001-02; G01K011-08; G12B001-00**
AB US 4191125 A UPAB: 19930902
A freeze indicator comprises a frangible container housing a liquid which expands upon freezing and fractures the container. The liquid contains an insoluble nucleating agent, with similar molecular space grouping to theliq., and a surfactant. An indicator responsive to the liquid is in close association with the container.

The nucleating agent prevents undercooling of the liquid The surfactant provides increased contact between the nucleating agent and the liquid and also decreases the surface tension between the fractured container and liquid, so that an immediate indication of freezing is obtd.

The use of cupric, ferrous, Mo or W sulphide, Zn metal, Ag iodide or beryllium aluminium silicate as the nucleating eating agent; polyoxyethylene (20) sorbitan monooleate as the surfactant; and water and/or deuterium oxide as the liquid is claimed.

L4 ANSWER 5 OF 7 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1979-33199B [17] WPIX
TI Non-reversible freeze-thaw indicator - comprising encapsulated translucent or opaque colloidal dispersion of solid polymer particles.
DC A18 A97 G04

IN CRAIG, J A; HANLON, R G
PA (DOWC) DOW CHEM CO
CYC 1
PI US 4148748 A 19790410 (197917)* <--
PRAI US 1976-737886 19761102; US 1977-771049 19770222
IC **C09K003-00**
AB US 4148748 A UPAB: 19930901
The indicator shows whether an adjacent article, e.g. meat or whole blood, has been subjected to freezing or thawing conditions. The indicator comprises an encapsulated translucent to opaque colloidal dispersion of organic solid particles (I) of dia. <=0.7 mu present in amount of 10-50 weight % suspended in an liquid medium.

The colloidal dispersion becomes non-reversibly destabilised upon freezing and provides a visual sign if the dispersion rises through it freeze-thaw temperature After the dispersion has once been frozen to trigger its non-reversible destabilisation and has been thawed, it coagulates to form a non-flowing waxy gel, flocculates and ppts. leaving a clear liquid and a coagulated organic solids layer or partially flocculates to form an opaque dispersion. Pref. (I) includes styrene polymer, SBR and vinylidene chloride-vinyl chloride copolymer.

The indicator can be stored for an indefinite period at normal or elevated temps. without loss of effectiveness. It is reliable and accurate.

FS CPI
FA AB
MC CPI: A12-L; G04-B09
PLC UPA 19930924
KS: 0209 0218 0231 0304 0305 0306 0313 0355 0411 0761 0838 1095 2501 2504 2572 2651 2670 2706 2769 2857

FG: *001* 011 034 04- 040 055 056 057 059 061 062 063 071 074 075 076 117 122 27& 351 397 436 504 532 536 575 592 593 643 645 678 688 720 726

L4 ANSWER 6 OF 7 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1979-29303B [15] WPIX
TI Freeze-thaw indicator - with frangible ampoule internal indentation as nucleation centre and breakage assistance.
AW SILICONE RUBBER.
DC A97 S03
IN COUCH, T W; FOURNIER, E P; HARVEY, J A
PA (ALKU) AKZONA INC
CYC 2
PI US 4145918 A 19790327 (197915)* <--
CA 1095340 A 19810210 (198113)
PRAI US 1976-720853 19760907
IC **G01K001-02; G01K011-06**
AB US 4145918 A UPAB: 19930901
An indicator, e.g. for foodstuffs or pharmaceuticals, comprises a frangible sealed ampoule holding liquid expanding near its freezing point. One ampoule face has an internal indentation projecting close to but spaced from a second face and forming a sharp acute angle inside the ampoule.

The indentation provides a site for encouraging crystal growth and strengthens the first face relative to the second so that the ampoule consistently breaks. The ampoule may include silicon carbide as nucleating agent, is of glass, and may be heat sealed or sealed with silicone rubber.

L17 ANSWER 1 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2004-675952 [66] WPIX CR 2003-289275 [28]
DNN N2004-535703 DNC C2004-240920
TI Device useful for indicating a transition from below a threshold temperature to above the threshold temperature comprises a housing containing a first reactant and a capsule containing a liquid and the first or a second reactant.
IN COOPERMAN, I
PA (COOP-I) COOPERMAN I
PI US 2004182304 A1 20040923 (200466)* 10 G01K011-06
PRAI US 2004-782801 20040223; **US 2001-925538 20010810**
IC ICM G01K011-06
AB US2004182304 A UPAB: 20041015
NOVELTY - Device comprises a housing having a first surface (at least a portion of which is of a first color) or interior; and a capsule containing a liquid and first/second reactant. The capsule and first reactant are located within the housing and second reactant is located on the

exterior of the capsule. The first and the second reactants cooperate to produce a pigment upon mixing which is of a second color different than the first color.

DETAILED DESCRIPTION - A device comprises a housing having a first surface (at least a portion of which is of a first color) or interior; and a capsule containing a liquid and first or second reactant. The capsule and first reactant are located within the housing and second reactant is located on the exterior of the capsule. The liquid freezes at threshold temperature and expands upon freezing. The first and the second reactants cooperate to produce a pigment upon mixing. The pigment is of a second color different than the first color.

USE - For indicating a transition from below a threshold temperature to above the threshold temperature (claimed); for indicating a change in condition by producing a **color change**; as a high temperature indicator.

ADVANTAGE - The apparatus indicates a change in condition; indicates a transition over a threshold temperature; indicates a change in time; is an improved indicator apparatus; is an reliable indicator apparatus; is an inexpensive indicator apparatus; an indicator apparatus that uses a pigment indicator; an indicator apparatus that can use a single frangible capsule; an indicator apparatus that can be used to monitor a small item, such as an individual vaccine vial; an indicator apparatus that creates a brilliant color upon an appropriate temperature transition; is exemplary in nature; indicates a temperature transition condition using two reactants that combine to produce a pigment. The use of a pigment is superior to the use of a dye since, e.g. a pigment can produce a more brilliant color with smaller amounts of each reactant. Additionally, pigment reactants are less likely to produce a color change with anything other than the complementary reactant.

DESCRIPTION OF DRAWING(S) - The figure shows a perspective view of an indicator apparatus.

Device 10
Housing 20
Interior 22
First reactant 26
Capsule 30
Second reactant 32
Liquid. 34

TECH US 2004182304 A1UPTX: 20041015

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Device: The threshold temperature is less than or greater than the temperature at which **water** freezes.

The capsule is designed such that it will fracture due to the expansion of the liquid upon freezing or it will melt at a predetermined temperature.

The housing has a second surface opposite the first surface or a third surface.

The second surface includes a transparent portion for allowing one to view the first surface.

The third surface has an adhesive attached to it for attaching the device to a product to be monitored.

The device further comprises an adhesive for coupling the first reactant to the interior of the housing.

The second reactant is located within the housing or is located on an exterior surface of the capsule.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Components: The first and the second reactants are a nickel salt and the other of the first and the second reactant is sodium dimethylglyoxime.

L17 ANSWER 2 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2004-088470 [09] WPIX
DNN N2004-070833 DNC C2004-035896
TI Food product freezing method e.g. for protein product, involves freezing after forming indentation in food product which is maintained when product remains frozen and altered when it is thawed.
DC D13 Q75
IN LIBERMAN, B
PA (WINT-N) WINTERLAB LTD
CYC 100
PI US 6679070 B1 20040120 (200409)* 6 F25B049-00
WO 2004020917 A2 20040311 (200419) EN F25B000-00
AU 2003260129 A1 20040319 (200462) F25B049-00
ADT US 6679070 B1 US 2002-231234 20020829; WO 2004020917 A2 WO 2003-US27057 20030828; AU 2003260129 A1 AU 2003-260129 20030828
FDT AU 2003260129 A1 Based on WO 2004020917
PRAI **US 2002-231234 20020829**
IC ICM F25B000-00; F25B049-00

AB US 6679070 B UPAB: 20040205
NOVELTY - An indentation is formed in a food product and frozen by TRUFRESH freezing processing, to form a frozen food product having the indentation. The indentation is self maintained when the food product remains frozen and is **irreversibly** altered when the food product is thawed.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for frozen food product.
USE - For freezing liquid or solid foodstuffs such as protein products e.g. reconstituted meat product from trims of fish, beef, pork or chicken, fish roes such as caviar and vegetable products using TRUFRESH process.
ADVANTAGE - Realizes a method capable of identifying thawed and refrozen food products by the frozen food product itself, and not by a separate indicator unrelated to the frozen food product. Realizes a method capable of freezing a food product in connection with a mold where the product is placed before freezing process.
DESCRIPTION OF DRAWING(S) - The figure shows the mold with an inward projection in cone shape.
mold 10
projection 12
wall 14
bottom 16
Dwg.1/4
FS CPI GMPI
FA AB; GI
MC CPI: D03-H01; D03-H02A

L17 ANSWER 3 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2002-055493 [07] WPIX
DNN N2002-040883 DNC C2002-015905
TI Non-discreet thermosensitive composition for providing reversible visual indication of prevailing temperature comprises thermochromic dye dispersed within hardened matrix-forming resin.
DC A89 P81 S03
IN CUSICK, J; DISALVO, G D
PA (DISA-I) DISALVO G D; (CUSI-I) CUSICK J
CYC 94
PI WO 2001084223 A1 20011108 (200207)* EN 13 G02F001-00
AU 2001059308 A 20011112 (200222)
US 6773637 B1 20040810 (200453) G02F001-00
ADT WO 2001084223 A1 WO 2001-US14006 20010501; AU 2001059308 A AU 2001-59308 20010501; US 6773637 B1 US 2000-563158 20000501
FDT AU 2001059308 A Based on WO 2001084223
PRAI **US 2000-563158 20000501**
IC ICM G02F001-00
ICS G01K011-00; G01N031-00; G02B005-23
AB WO 200184223 A UPAB: 20020130
NOVELTY - Non-discreet thermosensitive composition for detecting the prevailing temperature comprises a thermochromic dye dispersed within a hardened matrix-forming resin
USE - The composition is used for providing a reversible visual indication of the prevailing temperature, particularly to detect when the temperature is within a particular range. It can be used as an indicator that indicates when the temperature of a refrigerator or other food storage container rises above 40-45 deg. F, which is the optimum temperature range for storage of food. It can be applied to a painted or unpainted plastic, ceramic, glass, or metal substrate which is then placed in the refrigerator, or can be applied directly to the refrigerator wall or shelf as a magnetic strip. It can also be used with outdoor faucets and valves to indicate that the freezing point is approaching. It can be applied directly to the valve or faucet, or can be coated on a metal, ceramic, glass, or plastic substrate which can be attached to the valve or faucet. It is constructed as a flange that is affixed to the exterior or attached to the outside of an outdoor faucet and notifies the observer whether **water** in line is approaching the freezing point. The composition can also be used as a warning method for bridge surfaces or airplane wings, which are subject to freezing temperature in cold weather. It can also be used by farmers to sense and warn of oncoming frost or other cold temperatures that could damage crops.
ADVANTAGE - The inventive composition is simple to construct and use and possesses a unitary construction. It can sense the differences in the temperature of air currents that flow over the device, and thus is very sensitive to temperature differentials. It is capable of indicating the prevailing temperature in localized regions, with satisfactory degree of precession.
Dwg.0/0
TECH WO 200184223 A1UPTX: 20020130
TECHNOLOGY FOCUS - POLYMERS - Preferred Property: The dye undergoes a color change within 40-45degreesF. Preferred Resin: The matrix-forming resin includes epoxies, polyurethanes, polyamides, polyacrylates,

styrenics, polyacetals, polyvinyl chlorides, polyvinyl acetates, polyvinyl alcohols, phenolic resins, acrylonitrile butadiene styrene resins, polyesters, polyolefins, polyamides, fluoropolymers, polyethers, poly(alkylene sulfides), elastomers, polyisobutylene, or their mixtures. Preferred Component: The composition further comprises a hardener or a diluent.

ABEX WO 200184223 A1UPTX: 20020130

EXAMPLE - A brass coupon (1 inch wide, 2.5 inch long) was coated with dynacolor thermochromic red poster screen ink and allowed to dry at room temperature. The coated coupon with a light pink color was put in a jar of water and temperature of water was lowered from room temperature by addition of ice. When the temperature reached 42degreesF, the color of the coated coupon began to darken to deep pink. At 40degreesF the color of the coupon changed to a red color very distinct from the color seen at room temperature and above 42degreesF. When the coupon was allowed to rise above 42degreesF the color began to change and it became light pink after reaching 45degreesF. The coupon was placed in the refrigerator where it promptly turned a deep red. On removal from the refrigerator the coated coupon immediately began to lose the red color. When put back in the refrigerator it again turned red showing the reversible nature of the color change.

L17 ANSWER 4 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2000-126485 [11] WPIX
DNN N2000-095336 DNC C2000-038499
TI Composition for use as freeze-thaw indicator for protecting e.g. food, vaccines and pharmaceuticals.
DC B07 D16 D22 E19 G04 J04 S03
IN TIRU, M I; TIRU, M O; TIRU, M
PA (TIMA-N) TIMA AB
CYC 86
PI WO 9964832 A1 19991216 (200011)* EN 27 G01K011-12
SE 9802036 A 19991210 (200014)
AU 9946693 A 19991230 (200022) G01K011-12
SE 514519 C2 20010305 (200116) G01K011-12
US 6335200 B1 20020101 (200207) G01N033-12
ADT WO 9964832 A1 WO 1999-SE988 19990609; SE 9802036 A SE 1998-2036 19980609; AU 9946693 A AU 1999-46693 19990609; SE 514519 C2 SE 1998-2036 19980609; US 6335200 B1 Cont of WO 1999-SE988 19990609, US 2000-722384 20001128
FDT AU 9946693 A Based on WO 9964832
PRAI **SE 1998-2036 19980609**
IC ICM G01K011-12; G01N033-12
ICS G01K011-06; G01N031-22

AB WO 9964832 A UPAB: 20000405

NOVELTY - Composition for use as freeze-thaw indicator for protecting e.g food, vaccines and pharmaceuticals from damage due to low temperatures, by providing early visual warning.

DETAILED DESCRIPTION - Composition consists of two components which together show an elevated freezing point and the composition causes a reversible color change at selected temperatures below the freezing point, showing if the temperature has exceeded or fallen below a set temperature.

Component (1) is a buffer solution containing at least one pH indicator and component (2) is a solid material in the form of a metal object which hastens freezing and color change.

An INDEPENDENT CLAIM is also included for a method of preparation of the above composition.

USE - The composition is used to manufacture a temperature indicating device, (preferably a freeze-warning device or thaw indicator for frozen products that should not thaw during storage and handling), by filling a transparent (e.g. plastic or glass) container with it, the container having a color background allowing the difference in color change to be observed. The composition can be enclosed in transparent ice packs or in the form of a container inserted from the outside of the ice packs (all claimed). The composition provides an early visual warning by color change of damage done by freezing of pharmaceuticals, vaccines, blood, chemicals, food and flowers.

ADVANTAGE - The composition can be used in freeze-thaw indicators operable at 25 deg. C or lower, preferably at -4 to -12 deg. C which is the temperature range within which many vaccines and other biological material are perishable. Component (1) was prepared by diluting Sorensen's phosphate buffer 0.06 M pH 7.5 to 0.012 M in distilled **water** containing 2% 1-butanol. Bromothymol blue was added to this buffer solution to achieve a final concentration of 0.016%. 1.5 ml of the solution was placed in 1.7 ml vials. To each vial either one or two metal

balls (3mm diameter), aluminum foil (5x10 mm), steel wire (0.5x15 mm) or copper wire (0.5x15 mm) were added, these additives being component (2). All the vials were at a constant temperature of -6 deg. C. It was found that component (1) did not freeze without addition of component (2). The quickest change in color occurred with metal balls. All the vial containing 2 metal balls froze, whereas in vials containing one metal ball, only 11 out of 12 vials froze within one hour.
Dwg.0/1

TECH WO 9964832 A1 UPTX: 20000301
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: Component (2) consists of metal wires or balls. Component (1) which contains an **aqueous** buffer solution and at least one pH indicator is added as (sic) component (2). Preservatives selected from butanol, quaternary ammonium salts or sodium benzoate can be added to component (1).

L17 ANSWER 5 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1998-041073 [04] WPIX
DNN N1998-032962
TI Thaw indicator unit - includes container of transparent, non-toxic material, and hermetically sealed chamber containing frozen colour change medium having at least two segments of differently coloured frozen **aqueous** compositions.
DC S03
IN WATERS, G H
PA (WATE-I) WATERS G H
CYC 1
PI US 5695284 A 19971209 (199804)* 6 G01K011-06
ADT US 5695284 A Cont of US 1994-263514 19940622, US 1996-695478 19960812
PRAI **US 1994-263514 19940622; US 1996-695478 19960812**
IC ICM G01K011-06
AB US 5695284 A UPAB: 19980126
The thaw indicator unit comprises a containment member of transparent, non-toxic material formed to provide a hermetically sealed chamber containing a frozen colour change medium of at least two segments of coloured frozen **aqueous** compositions. Each segment has a surface portion juxtaposed a surface portion of at least one other the segment along an interface. The interface is of molecular thickness. At least one of the segments is homogeneously coloured differently from a juxtaposed coloured one of the segments. Colourants of the segments are food grade materials. The unit when placed on, in or in close proximity to the item will record any first thawing event by way of thawing of the juxtaposed segments and intermixing of it at least at the interface to produce at least a visible section of an intermix of the compositions. The visible section has a markedly different and readily visible colour from that of the juxtaposed segments. A receptacle member is formed to provide a cavity for receiving and retaining the containment member. The receptacle member is adapted for insertion through an aperture formed through a food package wall or into an unfrozen food item.

The receptacle member has a rim adapted to bear against either the wall or the item, and a cover of transparent material adapted to cover over the unit and be secured to a surface selected from at least one of the group consisting of the rim member, portions of the food package wall adjacent to the aperture member, portions of a protective covering of a food item, and portions of an uncovered food item.

USE - For sensing and permanently recording a thawing event experienced by a temperature sensitive food item. Dwg.1/9

FS EPI
FA AB; GI
MC EPI: S03-B01

L17 ANSWER 6 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1997-289393 [26] WPIX
DNN N1997-239612 DNC C1997-093164
TI Critically low temperature-indicating device for food, pharmaceuticals, vaccines etc. - comprises enclosed microporous membrane and indicating composition including mainly primary organic components and modifying and wetting components.
IN BIRKHOLZ, R D; PEREYRA, R J; SCHOLZ, M T
PA (MINN) MINNESOTA MINING & MFG CO; (MINN) 3M INNOVATIVE PROPERTIES CO
PI WO 9718449 A1 19970522 (199726)* EN 44 G01K011-06
AU 9676683 A 19970605 (199738) G01K011-06
EP 861427 A1 19980902 (199839) EN G01K011-06
BR 9611283 A 19990126 (199910) G01K011-06

US 5964181 A 19991012 (199949) G01K011-12
JP 2000500575 W 20000118 (200014) 44 G01K011-06
EP 861427 B1 20020327 (200222) EN G01K011-06
DE 69620217 E 20020502 (200237) G01K011-06
PRAI **US 1995-558892 19951116**
REP EP 310428; US 4028944
IC ICM G01K011-06; G01K011-12
AB WO 9718449 A UPAB: 19970626
Critical temperature indicating device comprises: (a) a microporous membrane; and (b) an indicating composition containing <10 weight% **water** and containment for the membrane and the composition. The indicating composition consists of: (i) a major amount of a primary organic component consisting of at least one compound that freezes above critical temperature and does not spontaneously wet out the membrane at a temperature at least 30 deg. C above critical temperature; (ii) a modifying component comprising at least one compound that freezes below critical temperature; and (iii) a wetting component comprising at least one compound that freezes below T and can spontaneously wet out the membrane at critical temperature. Components (i)-(iii) are miscible liquids above critical temperature and used in such ratio that the composition does not spontaneously wet out the membrane at a temperature at least 30 deg. C above critical temperature but does wet it out at critical temperature upon solidification of part of the composition.

USE - Used for indicating when objects e.g. flash frozen foods such as poultry, paints, **water**-based adhesives and chemicals, dairy products, plants, pharmaceuticals and vaccines have been exposed to an undesirably low temperature.

ADVANTAGE - Indicating composition can have a response time of at most 30 minutes, can be activated within plus or minus 1 deg. C of critical temperature and can be modified to cover a wide range of critical temperature.

Dwg.1/4
FS CPI EPI
FA AB; GI; DCN
MC CPI: A09-C; A11-C; B04-C03A; C04-C03A; B11-C09; C11-C09; D02-A01; D03-B; D03-K03; D03-K04; G02-A01; G02-A02; G03-B01; G03-B02; G04-B09
EPI: S03-B01
DRN 0137-U; 0270-U; 0908-U; 0975-S; 0975-U; 1852-U
PLE UPA 19970716
[1.1] 018; P0000
[1.2] 018; Q9999 Q7158-R Q7114; K9665; ND05; J9999 J2904; J9999 J2915-R; N9999 N6406 N6382
[2.1] 018; P0000; S9999 S1025 S1014; S9999 S1616 S1605
[2.2] 018; Q9999 Q6644-R; K9665; ND05; J9999 J2904; J9999 J2915-R; N9999 N6406 N6382
[2.3] 018; R01740 G2335 D00 F20 H- O- 6A; A999 A475

L17 ANSWER 7 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1993-287222 [36] WPIX
DNN N1993-220928
TI Freeze indicator for indicating product temperature - coats inner surface of blister containing ampoule containing liquid which expands upon freezing with absorbent layer comprising binder wettable by liquid and filler..
DC S03
IN IGNACIO, R T; LARSSON, R P
PA (PYMA-N) PYMAH CORP
CYC 1
PI US 5239942 A 19930831 (199336)* 11 G01K005-32
ADT US 5239942 A US 1992-881027 19920511
PRAI **US 1992-881027 19920511**
IC ICM G01K005-32
AB US 5239942 A UPAB: 19931122
The freeze indicator includes a frangible ampoule containing a liquid which expands upon freezing, a dye soluble in the liquid and a nucleating agent. The nucleating agent and the liquid have substantially similar space groupings. The ampoule is enclosed within a blister of transparent film. The blister is adhered to a backing and the inner surface of the blister is coated with an absorbent layer comprising a binder wettable by the liquid and a filler.

Upon rupture of the ampoule the liquid containing dye is absorbed by the absorbent layer, causing a colour change in the absorbent layer visible through the transparent film.

USE/ADVANTAGE - Provides precise information that product has been exposed to low temperature e.g. freezing point of **water**. Dwg.5/5
FS EPI
FA AB
MC EPI: S03-B01D; S03-B01X

L17 ANSWER 8 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1993-188252 [23] WPIX
DNN N1993-144611 DNC C1993-083335
TI Device for visually indicating specified high and low temps. - comprises bulbous capillary containing two separated but miscible liquid, one dyed, which become mixed or expelled by thermal expansion or freezing.
DC B04 D13 G04 S03
IN MANSKE, W J
PA (INTR-N) INTROTECH INC
CYC 1
PI US 5215378 A 19930601 (199323)* G01K003-00
ADT US 5215378 A US 1992-870281 19920417
PRAI **US 1992-870281 19920417**
IC ICM G01K003-00
ICS G01K005-08; G01K005-20; G01K011-12
AB US 5215378 A UPAB: 19931115
Dual temperature indicator giving visual indication of predetermined low (T1) and high (T2) temps. comprises (a) a transparent capillary tube having a bulb at one end with volume greater than that of the tube; (b) a first liquid (L1), filling the bulb and part of the tube, which undergoes volume reduction when solidified; (c) second liquid (L2) in the tube which is miscible with L1 and has low freezing point; (d) between L1 and L2 a device (D1) to prevent them mixing within the tube, the combined volume of L1 and D1 being smaller than the bulb volume when L1 is solidified so that this event D1 and some L2 are drawn into the bulb, providing an indication of T1; (e) a device (D2) for indicating T2 fixed at the tube end, the combined volume of L1, L2 and D1 at T2 being greater than that of bulb plus tube, so that at T2 some L2 is expelled to provide a visual indication.

Pref. T1 and T2 are both indicated by incorporating a dye, specifically Waxolene Violet BA, into L2.

USE/ADVANTAGE - The device is used to monitor perishable or temperature sensitive goods, (e.g. pharmaceuticals or foods) during transport. It provides a rapid and **irreversible** indication of a past freezing or unacceptably high temperature, even if such conditions no longer exist.
Dwg.1/1
FS CPI EPI
FA AB; GI; DCN
MC CPI: B05-A03B; B05-C07; B10-E04C; B10-G02; B11-C07B1; B12-K04; D03-H01; G04-B09
EPI: S03-B01X
DRN 0822-U; 0981-U; 1678-U; 1679-U; 1696-U; 1706-U; 1707-U; 1715-U; 1750-U; 1895-U; 1939-U; 1947-U; 1958-U
CMC UPB 19931213
M2 *01* G011 G100 J0 J012 J2 J232 M220 M222 M232 M272 M282 M320 M414 M430 M510 M520 M531 M540 M782 M903 M904 M910 N102 P831 Q224
DCN: R00981-D; R00981-M
M2 *02* B415 B701 B713 B720 B815 B831 M220 M222 M231 M283 M320 M411 M430 M510 M520 M530 M540 M620 M782 M903 M904 N102 P831 Q224
DCN: R05391-D; R05391-M
M2 *03* H4 H402 H482 H8 M280 M312 M321 M332 M342 M383 M391 M416 M430 M620 M782 M903 M904 M910 N102 P831 Q224
DCN: R00822-D; R00822-M
M2 *04* C017 C100 C500 C730 C801 C804 C806 C807 M411 M430 M782 M903 M904 M910 N102 P831 Q224
DCN: R01947-D; R01947-M
M2 *05* A220 A940 C017 C100 C730 C801 C803 C804 C805 C806 C807 M411 M430 M782 M903 M904 M910 N102 P831 Q224
DCN: R01895-D; R01895-M
M2 *06* A426 A940 C017 C100 C730 C801 C803 C804 C805 C806 C807 M411 M430 M782 M903 M904 M910 N102 P831 Q224
DCN: R01939-D; R01939-M
M2 *07* A103 A940 C017 C100 C730 C801 C803 C804 C805 C806 C807 M411 M430 M782 M903 M904 M910 N102 P831 Q224
DCN: R01679-D; R01679-M
M2 *08* A119 A940 C017 C100 C730 C801 C803 C804 C805 C806 C807 M411 M430 M782 M903 M904 M910 N102 P831 Q224
DCN: R01678-D; R01678-M
M2 *09* A111 A940 C017 C100 C730 C801 C803 C804 C805 C806 C807 M411 M430 M782 M903 M904 M910 N102 P831 Q224
DCN: R01706-D; R01706-M
M2 *10* A119 A940 C035 C100 C730 C801 C803 C804 C805 C806 C807 M411 M430

M782 M903 M904 M910 N102 P831 Q224

L17 ANSWER 9 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 1992-268543 [32] WPIX

TI Freeze protective shipping unit for thermally sensitive materials - has phase change material between unit sidewalls with freeze indicator providing **irreversible** signal of temperature reached.

IN CLEARY, K M; SCHEA, H E

PA (AMGE-N) AMGEN; (AMGE-N) AMGEN INC

PI	WO 9212071	A1	19920723 (199232)*	EN	18	B65D081-38
	AU 9211967	A	19920817 (199245)			B65D081-38
	FI 9204079	A	19920911 (199249)			B65D000-00
	EP 521132	A1	19930107 (199301)	EN	18	B65D081-38
	NO 9203543	A	19920911 (199302)			B65D081-38
	US 5181394	A	19930126 (199307)		7	B65D081-18
	JP 05506087	W	19930902 (199340)			F25D003-00
	AU 643124	B	19931104 (199351)			F25D003-08
	PT 100011	A	19940531 (199421)			B65D081-38
	NZ 241286	A	19941125 (199501)			F25D003-08
	CA 2078143	C	19960312 (199620)			B65D081-38
	EP 521132	B1	19960508 (199623)	EN	10	B65D081-38
	DE 69210483	E	19960613 (199629)			B65D081-38
	ES 2086729	T3	19960701 (199633)			B65D081-38
	IE 75907	B	19971008 (199749)			B65D081-38
	SG 47463	A1	19980417 (199826)			B65D081-38
	NO 305067	B1	19990329 (199919)			B65D079-02
	FI 108785	B1	20020328 (200223)			B65D081-38

PRAI **US 1991-640603 19910114**

AB WO 9212071 A UPAB: 19931006

In a preferred form, the container holder units (10) have double side walls (12,13) and a freeze indicator adjacent a container-accommodating cavity (14). A phase change material (22) such as a carboxymethylcellulose gel is disposed within the enclosed space formed between the holder unit sidewalls.

The phase change material (22) freezes at a temperature higher than the nucleation temperature of the composition. The freeze indicator provides an **irreversible** visual signal upon reaching a temperature intermediate the nucleation temperature of the liquid composition and the freezing temperature of the phase change material.

USE/ADVANTAGE - For containers, of liquid compositions such as solutions of biologically active proteins subject to chemical change upon freezing. Provides clear visual signal of expore to extreme conditions. 3/7

ABEQ US 5181394 A UPAB: 19931006

The holder is for containers of liquid compositions, such as solutions of biologically active proteins, which are susceptible to physico-chemical change upon freezing. The container holders have double sidewalls and a freeze indicator adjacent a container-accommodating cavity. A phase change material such as a carboxymethylcellulose gel is disposed in the enclosed space between sidewalls and freezes at a temperature higher than the nucleation temperature of the composition. A freeze indicator provides an **irreversible** visual signal upon reaching a temperature intermediate the nucleation temperature of the liquid composition and the freezing temperature of the phase change material. USE - For therapeutic doses of recombinant-producing human granulocyte colony stimulating factor.

ABEQ EP 521132 B UPAB: 19960610

A storage unit for containers of a liquid composition susceptible to physicochemical alteration upon freezing, said unit comprising: a double-sidewalled container holder (10) including, an inner sidewall (13) having formed therein cavity means (14) accommodating the disposition of at least one said container in a position secured against movement, an outer sidewall (12) said inner and outer sidewalls (13,12) of said container holder means (10) defining an enclosed space (18) therebetween and adjacent at least a part of said cavity means; a phase change material (22) disposed in and filling at least a portion of said enclosed space (18) adjacent said cavity means, characterised in that said phase change material (22) has a freezing temperature which is higher than the nucleation temperature of said liquid composition in said container; and the unit further comprises a freeze indicator means (16) for generating an **irreversible** visual signal of the attainment, adjacent said cavity means, of a temperature less than the freezing temperature of said phase change material (22), but no less than the nucleation temperature or said

liquid composition.

L17 ANSWER 10 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1992-182507 [22] WPIX
DNN N1992-137738 DNC C1992-083611
TI Freeze indicator - comprises frangible ampoule containing a nucleating agent and poison inhibitor.
DC E37 G04 S03
IN LARSSON, R P; LEVENDUSKY, G T
PA (PYMA-N) PYMAH CORP
CYC 1
PI US 5111768 A 19920512 (199222)* 8 G01K005-32
ADT US 5111768 A US 1991-712335 19910607
PRAI **US 1991-712335 19910607**
IC ICM G01K005-32
ICS G01N031-00
AB US 5111768 A UPAB: 19931006
Freeze indicator comprises a frangible ampoule containing a liquid (I) which expands on freezing to break the ampoule and a nucleating agent (II). Agent (II) is a metal cpd. insol. in (I) and has similar molecular space groupings thereto. A soluble salt of the same metal as present in (II) is also included in (I) as a poison inhibitor for agent (II). Pref. cupric, ferrous, molybdenum or tungsten sulphides or silver or cuprous iodides are (II) and inhibitor is e.g. cupric sulphate, ferrous sulphate or molybdenum tetrabromide etc., Pref. (I) is **H2O** or D2O. An alternative indicator comprises (I) and (II) which is a metal cpd. with a solubility in liquid (I) of 0.15 -1 weight% together with an indicator pad e.g. an adsorbent material containing a **H2O** soluble dye to provide a visual indication of freezing.
USE/ADVANTAGE - Indicator provides information that prods. have been exposed to low temps. e.g. near freezing pt. of **H2O**. Presence of (II) eliminates undercooling effect of liquid (I) and poison inhibitor means effectiveness of (II) over extended time periods. 1/4
FS CPI EPI
FA AB; GI; DCN
MC CPI: E31-P02D; G04-B09
EPI: S03-B01D; S03-E01A
CMC UPB 19930924
M3 *01* A426 A429 A430 A542 A547 A940 C009 C017 C035 C053 C100 C108 C116 C316 C540 C730 C801 C802 C803 C804 C805 C806 C807 M411 M782 M903 M904 Q432 Q505
DCN: R01703-M; R01721-M; R01729-M; R01759-M; R01795-M; R03311-M; R23041-M
DCN: 9222-E9501-M

L17 ANSWER 11 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1989-101710 [14] WPIX
DNN N1989-077587 DNC C1989-044832
TI Critical temperature indicating device giving **irreversible** signal - has mixture of liquids against microporous sheet, one of which wets sheet making it transparent.
DC B07 D13 G04 S03
IN EMSLANDER, J
PA (MINN) MINNESOTA MINING & MFG CO
CYC 8
PI EP 310428 A 19890405 (198914)* EN 7
R: CH DE FR GB LI SE
US 4846095 A 19890711 (198935) 7
CA 1294833 C 19920128 (199211)
EP 310428 B1 19930526 (199321) EN 10 G01K011-06
R: CH DE FR GB LI SE
DE 3881318 G 19930701 (199327) G01K011-06
ADT EP 310428 A EP 1988-309118 19880930; US 4846095 A US 1987-104637 19871002; EP 310428 B1 EP 1988-309118 19880930; DE 3881318 G DE 1988-3881318 19880930, EP 1988-309118 19880930
FDT DE 3881318 G Based on EP 310428
PRAI **US 1987-104637 19871002**
REP 1.Jnl.Ref; A3...9007; JP 59017121; JP 61053531; No-SR.Pub; US 3177843; US 3922917; US 3967579; US 4145918; US 4149852; US 4428321
IC G01K011-06; G01N025-04
AB EP 310428 A UPAB: 19930923
A device for indicating the f.pt. of a liquid comprises a layer of film with micropores. A barrier layer is sealed to the film at its periphery to form a receptacle between the two. A liquid compsn. is disposed in the receptacle. The compsn. includes two liquids, one having a

surface energy sufficiently low that it is capable of wetting out the micropores. The other has a surface energy insufficiently low that it is incapable of wetting out the micropores. Above the f.pt. of the liquid having insufficiently low surface energy, the mixture will not wet out the micropores, but at or below the f.pt. of that liquid, the mixture will wet out the micropores.

USE/ADVANTAGE - The device is used as a critical temperature indicator which provides an **irreversible** visual signal to a user that a product, e.g. blodd, pharmaceuticals, or beverages, has been exposed to a predetermined temperature The device operates rapidly and provides an **irreversible** signal.

8/8

ABEQ US 4846095 A UPAB: 19930923

Device for indicating the freezing point of a liquid comprises a container having a base to which a microporous film is sealed, enclosing a mixt. of two or more liquids, one of which has a surface energy sufficient for wetting the micropores of the film and one of which has a low surface energy and is incapable of wetting the micropores; such that above the freezing pt. of one liquid, the mixt. does not wet the micropores of the film, but on cooling, the mixt. wets the micropores at the freezing pt. of one liquid. A visible indicator is associated with the microporous layer, which is masked at temps. above.the freezing pt. of the one liquid.

USE - Theprods. provide visual warning that stored liquids are chilled too much, e.g. blood, emulsions, pharmaceuticals, drinks, etc., avoiding spoilage at low temps.

ABEQ EP 310428 B UPAB: 19931114

A device (10,10') for indicating **irreversibly** the freezing poinnt of a liquid comprising (a) a layer of film (14,14') having a multiplicity of micropores therein, (b) a barrier layer (16,16') sealed to said layer of microporous film at the periphery thereof to form a receptacle (18,18') between said barrier layer and said layer of microporous film, (c) a liquid mixture disposed in said receptacle, said mixture comprising at least two liquids, one of said liquids having a surface energy sufficiently low that it is capable of wetting out the micropores of said microporous layer, the other of said liquids whose freezing point is to be determined having a surface energy insufficiently low for it to be capable of wetting out the micropores of said microporous layer, whereby above the freezing point of said liquid having insufficiently low surface energy, the mixture will not wet out the micropores of said microporous layer, but at or below the freezing point of said liquid having insufficiently low surface energy, the mixture will wet out the micropores of said microporous layer.

Dwg.0/8

L17 ANSWER 12 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 1987-192497 [27] WPIX

DNN N1987-144101 DNC C1987-080295

TI High-precision calorimeter for medical tests - has detecting unit filled with liquid paraffin or silicone oil to cover calorimetric unit.

IN ITO, A; ITO, H; ITO, S

PA (ITOS-I) ITO S

PI	WO 8703964	A	19870702 (198727)*	JA	11	
	JP 62151746	A	19870706 (198732)			
	EP 253893	A	19880127 (198804)	EN		
	US 4859077	A	19890822 (198942)		5	
	EP 253893	B1	19920930 (199240)	EN	7	G01N025-20
	DE 3686886	G	19921105 (199246)			G01N025-20
	JP 06012347	B2	19940216 (199410)			G01N025-20

PRAI **JP 1985-294803 19851226**

AB WO 8703964 A UPAB: 19930922

Appts. consists of a constant temperature bath (2) filled with **water** (80), a heater (8) a stirrer (12), and a detecting vessel (14) filled with any one of liquid paraffin, silicon oil or perfluorocarbon (82). The detecting vessel (14) has a calorimetric unit inside, which is contained in an aluminium pole (24) and consists of a reference heater (16) and a sample passage pipe (18) sandwiched by a thermocouple (20). A number of samples, such as serum and red blood cells, are supplied via supply pipes (32), heated up to a constant bath temperature, and mixed together in a mixer (30). The amount of heat generated due to the mixing is then measured by the thermocouple (20).

USE/ADVANTAGE - Calorimetry with high precision and long-term stability is possible. Useful in medical applications. 1/4

ABEQ DE 3686886 G UPAB: 19930922

Appts. consists of a constant temperature bath (2) filled with **water** (80), a heater (8) a stirrer (12), and a detecting vessel

(14) filled with any one of liquid paraffin, silicon oil or perfluorocarbon (82). The detecting vessel (14) has a calorimetric unit inside, which is contained in an aluminium pole (24) and consists of a reference heater (16) and a sample passage pipe (18) sandwiched by a thermocouple (20). A number of samples, such as serum and red blood cells, are supplied via supply pipes (32), heated up to a constant bath temperature, and mixed together in a mixer (30). The amount of heat generated due to the mixing is then measured by the thermocouple (20).

USE/ADVANTAGE - Calorimetry with high precision and long-term stability is possible. Useful in medical applications.

ABEQ EP 253893 B UPAB: 19930922

A precision calorimeter comprising a temperature-controlled bath container (2) having a heater (8) and an agitator (12), a detection bath container (26) disposed in said temperature-controlled bath container, said detection bath container having a detection unit (16,18,20,21,30) which is placed in the detection bath, the detection unit comprises a thermocouple (20) for detecting a quantity of heat due to a thermal reaction of a sample characterised in that said temperature-controlled bath container (2) is filled with **water**, said detection unit (16,18,20,21,30) further comprises a pipe (18) for passing the sample therethrough, a reference heater (16) and metallic blocks (21), wherein the pipe is provided with a mixer (30) and the pipe (18), the reference heater (16) and the thermocouple (20) are positioned between the metallic blocks, said detection bath container (26) is filled with perfluorocarbon surrounding the detection unit for attaining a precise temperature control and reducing corrosion or oxidation of the thermocouple.

1/4

ABEQ US 4859077 A UPAB: 19930922

Calorimeter includes a temp.-controlled both container filled with a liquid whose specific gravity is less than that of perfluorocarbon and containing a detection both container filled with perfluorocarbon.

The detection container has a detection unit which includes a detection element and pipe for carrying a sample.

ADVANTAGE - Improved precision.

FS CPI EPI

FA AB

MC CPI: A06-A00E3; A12-V03D; J04-B01

EPI: S03-B02; S03-E01B; S03-E14H

PLC UPA 19930924

KS: 0231 1306 2511 2707 2769

L17 ANSWER 13 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 1984-294047 [47] WPIX

DNN N1984-219415 DNC C1984-124980

TI Tamper-evident container - has temperature sensitive indicator at closed end to show excessive heating.

DC A96 B07 Q34

IN LAUCIS, P K; TERRY, R

PA (NORS) NORDSON CORP

CYC 1

PI US 4480749 A 19841106 (198447)* 4

ADT US 4480749 A US 1983-498280 19830526

PRAI **US 1983-498280 19830526**

IC B65D085-56

AB US 4480749 A UPAB: 19930925

A tamper-evident container includes at least one open end with integral flaps adjacent the open end. A thermoplastic material is applied to one flap with the other flap folded over onto the one flap.

The flaps are thus sealed a thermoplastic material. A temperature sensitive indicator is applied to the closed end so that the indicator visually indicates whether an excessive amount of heat has been applied to the seal of thermoplastic material.

USE/ADVANTAGE - Drugs containers sealed by low temperature hot melt adhesive. The temperature sensitive material changes colour **irreversibly** .

0/2

FS CPI GMPI

FA AB

MC CPI: A12-P06; A12-V; B11-C06

PLC UPA 19930924

KS: 3000 0231 2488 3258 2684 2718 2769 2774 2775

FG: *001* 014 04- 11& 289 36& 381 446 477 50& 50- 609 645 651 720
CMC UPB 19930924
M6 *01* M903 R730 R770

L17 ANSWER 14 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1984-182171 [29] WPIX
DNN N1984-136115 DNC C1984-076819
TI Accurate critical temperature indicator - with volume reduction of organic liquids on solidification in capillary tube.
DC A89 G04 J04 S03
IN MANSKE, W J
PA (MINN) MINNESOTA MINING & MFG CO
CYC 1
PI US 4457253 A 19840703 (198429)* 5
ADT US 4457253 A US 1982-440265 19821109
PRAI **US 1982-440265 19821109**
IC G01K011-00
AB US 4457253 A UPAB: 19930925
Indicator comprises (1) capillary tube closed at 1 end; (2) a first liquid extending from the closed end partly throughout the tube. It is capable of solidification with a volume reduction; (3) a coloured second liquid having a solidification temperature lower than that of the first liquid and in the tube; (4) separation liquid between the first and second liquids. It is immiscible with both liquids and has a solidification temperature below that of the first liquid; and (5) a porous plug capable of sorbing the second liquid and located in the separation liquid. It is frictionally engaged in the tube to prevent movement with respect to the tube.

The vols. of first liquid and separation liquid are such that contact between the second liquid and plug is prevented before solidification of the first liquid. This solidification causes second liquid to be drawn into the plug to colour it and to provide a visual indication that the first liquid has solidified.

USES/ADVANTAGES - The indicator is useful for packaging with a prod. to indicate whether it has been exposed to a predetermined temperature, usually near the freezing point of **water**, where use characteristics may change, the prod. may deteriorate etc. Prods. include blood, emulsions, pharmaceuticals, beverages etc., especially when chilling is used for preservation. The indicator gives accurate results. 0/3
FS CPI EPI
FA AB
MC CPI: A12-L; A12-P; A12-V03; G04-B09; J04-C02
EPI: S03-B01D
PLC UPA 19930924
KS: 0214 0231 0248 2528 3245 2569 2653 2658 2706 2768 2791 2820

FG: *001* 014 04- 041 046 050 351 381 481 483 532 533 56& 575 595 597 599
643 645 664 665 688 726 727

L17 ANSWER 15 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1984-160030 [26] WPIX
DNN N1984-119009 DNC C1984-067487
TI Volume reduction critical temperature indicator - using thermometer-like device containing organic ester(s) separated by movable plug.
DC E19 J04 S03
IN MANSKE, W J
PA (MINN) MINNESOTA MINING & MFG CO
CYC 9
PI EP 112023 A 19840627 (198426)* EN 14
R: CH DE FR GB IT LI SE
US 4457252 A 19840703 (198429)
CA 1204028 A 19860506 (198623)
EP 112023 B 19880824 (198834) EN
R: CH DE FR GB IT LI SE
DE 3377810 G 19880929 (198840)
ADT EP 112023 A EP 1983-306798 19831108; US 4457252 A US 1982-440264 19821109
PRAI **US 1982-440264 19821109**
REP A3...8522; No-SR.Pub; US 2785132; US 3090236; US 3399284; US 3889658
IC G01K011-06
AB EP 112023 A UPAB: 19930925
An indicator (2) to show if a temperature has decreased below a critical value comprises a hollow bulb (4) and a capillary (6); (4) contains a colourless liquid (10) which extends into (6) and is capable of freezing with a reduction in volume, while a second liquid (12) which may be dyed and

which is miscible with and has a lower freezing pt. than (10) fills the remainder of (6) apart from a separating means (14) interposed between (10) and (12) to prevent mixing, (14) having less volume than (4) so that if (10) freezes (14) and part of (12) are drawn into the bulb (4) to give a visual indication which is improved if (12) is dyed.

Blood, pharmaceutical and food liqs. which have to be stored chilled may be damaged by freezing and this indicator shows such an event. 1/3

ABEQ EP 112023 B UPAB: 19930925

A critical temperature indicator (2) comprising a hollow bulb (4), a capillary tube (6) communicating with the bulb (4), first and second liquids (10,12) and superating means (14) interposed between the first and second liquids for preventing mixing thereof within the tube (6), characterised in that the first liquid (10) is a colourless liquid filling the bulb (4) and extending into the tube (6) and which is capable of solidification and exhibits the property of volume reduction upon solidification, and in that the second liquid (12) is located within the tube (6), is miscible with the first liquid (10) and has a solidification temperature lower than that of the first liquid (10) and in that the total volume of the first liquid (10) upon solification and said separating means (14) are less that the volume of the bulb (4) so that the separating means (14) and at least a portion of the second liquid (12) is drawn into the bulb (4) upon solidification of the first liquid (10) to provide a visual indication that the first liquid (10) has solidified.

ABEQ US 4457252 A UPAB: 19930925

Critical temp. indicator comprises a hollow bulb communicating with a capillary tube. A colourless first liq. fills the bulb and extends into the tube. This liq. can solidify and exhibits vol. redn. upon solidification. A second liq. located in the tube is miscible with the first liq. and has solidification temp. below that of the first liq.. Sepg. means interposed between the two liqs. prevents their mixing within the tube.

ADVANTAGE - On solidification, the vol. of the first liq. shrinks such that its vol. plus that of the sepg. means is less than the bulb vol.. Some of the second liq. enters the bulb to provide visual **irreversible** indication that the first liq. has solidified. The liqs. may be fatty acid esters.

FS CPI EPI

FA AB

MC CPI: E05-G09C; E10-G02F; E10-G02H; J04-B01; J04-C02
EPI: S03-B01X

DRN 0981-U

CMC UPB 19930924

M3 *01* G011 G100 J0 J011 J012 J2 J232 J271 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222 M223 M224 M225 M231 M232 M233 M262 M272 M281 M282 M320 M414 M416 M424 M510 M520 M531 M540 M620 M740 M782 M903 N102 Q505 R023

17 ANSWER 16 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 1983-850496 [51] WPIX

DNN N1983-228758 DNC C1983-125557

TI Immunological agglutination method using dyed **latex** - in presence of contrasting **water** soluble dye, especially for pregnancy testing.

AW POLYSTYRENE GLYCIDYL POLYMETHACRYLATE.

DC A96 B04 S03

IN DORMAN, L C

PA (DOWC) DOW CHEM CO

CYC 1

PI US 4419453 A 19831206 (198351)* 7

PRAI **US 1981-306067 19810928; US 1982-431528 19820930**

IC G01N033-54

AB US 4419453 A UPAB: 19930925

An indirect agglutination test for an immunological reactant (A, especially an antigen) comprises incubating a biological sample with the immunological counterpart (B) of (A) for at least 1 min., then adding (A) bound to **latex** particles and determining whether agglutination has occurred.

The new features are that (1) dyed lated particles are used; (2) reaction is carried out in presence of a **water**-soluble dye (I) of contrasting colour which is not adsorbed by the particles and (3) the presence of agglutination is detected by the appearance of the true colour of the particles, intensified by clumping or precipitation, while the rest of the mixture retains the colour of (I). The **latex** particles are especially of styrene-glycidyl methacrylate.

Also new are similar direct tests in which the sample is incubated for at least 30 min. with dyed **latex** particles to which (B) is bound. Kits for the tests are also claimed.

The method is used to detect proteins, antibodies, antigens, haptens or polysaccharides; specifically human chlorionic gonadotrophin (HCG) in human female's urine. The contrasting colour makes the test much easier to interpret (e.g by the subject herself) and since agglutination does not have to occur in a particular ring pattern (contrast haemagglutination) the procedure is less sensitive to disturbance during incubation. 0/0

FS CPI EPI
FA AB
MC CPI: A04-C04; A04-F06E; A05-A04; A07-B02; A08-E01; A12-V03C; B04-B02C3; B04-B04A; B04-B04C; B04-C02; B04-C03B; B11-C07A; B11-C07B; B12-K04
EPI: S03-E14H4
PLC UPA 19930924
KS: 0231 0306 0502 3055 0607 1282 1632 2018 2208 2321 2322 2499 2504 2541

L17 ANSWER 17 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1982-39224E [19] WPIX
TI Thaw indicator for frozen prods. - containing two reagents separated by barrier breakable only by rise in temperature.
DC D14 G04 S03
IN LENACK, I J
PA (LENA-I) LENACK R D
CYC 1
PI US 4327117 A 19820427 (198219)* 11
PRAI **US 1980-131530 19800318**
IC A22C017-10; G01K011-06
AB US 4327117 A UPAB: 19930915
Thaw indicator for attachment to frozen prods. to show if any thawing has occurred after the initial freezing consists of an inner hollow vessel completely filled with a liquid reagent (I) and suspended by supports within an outer hollow vessel which has the space between the 2 vessels filled with a 2nd liquid reagent (II). (I) and (II) have freezing temps. ca the same as the freezing temperature of the prod. to which the indicator is attached, and when mixed (I) and (II) undergo an **irreversible** chemical reaction.

The freezing temps. of (I) and (II) are such that (a) when the prod. with attached indicator is frozen, (II) freezes first, preventing the subsequent freezing of (I) from rupturing the walls of the inner vessel; (b) when the temperature rises and the prod. thaws, (II) (being nearer the outside) melts first so that the pressure from the still frozen (I) bursts the walls of the inner vessel and when (I) melts it flows into (II) and reacts with it to produce a colour change, etc.

The compact device effectively and simply indicates if a frozen prod. (food, vaccine, etc.) has been thawed after its initial freezing.

FS CPI EPI
FA AB
MC CPI: D03-K; G04-B09
EPI: S03-B01E

L17 ANSWER 18 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1981-02794D [03] WPIX
TI Device for detecting the defrosting of frozen prods. - comprises two materials which are kept separate while frozen but which on defrosting come together and interact.
DC G04 Q75 S03
PA (SALA-I) SALA F
CYC 3
PI GB 2051361 A 19810114 (198103)*
US 4280361 A 19810728 (198133)
GB 2051361 B 19840222 (198408)
IT 1162552 B 19870401 (198924)
ADT GB 2051361 A GB 1979-39777 19791116
PRAI **IT 1979-23388 19790608; IT 1979-24091 19790704**
IC F25B000-00; G01K003-00; G01K011-06
AB GB 2051361 A UPAB: 19930915
Method for detecting and signalling the defrosting, even temporary of frozen prods. uses a detecting device consisting of a closed container containing two distinct elements which are kept separate at low temps., but at higher temps. are caused to come together and interact in an **irreversible** manner.

Pref. the two elements are a colourless and a coloured element which are kept separate under frozen conditions but form a single coloured mixture on defrosting. They may be a liquid and a

dye separated by a frangible wall or capsule or diaphragm; or a liquid and an absorbent; or two solids which diffuse into each other on thawing.

ABEQ GB 2051361 B UPAB: 19930915
A process for detecting and signalling the defrosting, even temporary, of frozen products by providing within a single container two distinct elements which are kept separated mechanically and/or by their physical state at low temperature, in such a way that a variation in said temperature eliminates the causes of their separation and allows an apparent and **irreversible** interaction between said elements to take place on an increase in temperature corresponding to defrosting, one element being an **aqueous saline** solution, and the other element being a coloured solution, kept separated by a breakable displaceable or perforable septum so that during the freezing phase the increase in volume of the or one of the solutions causes said separating septum to be broken and/or at least partially displaced.

FS CPI EPI GMPI
FA AB
MC CPI: G04-B09
EPI: S03-B01E; S03-E14A

L17 ANSWER 19 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1980-73516C [42] WPIX
TI Indicator of transitory defrosting of frozen food etc. - by visible and **irreversible** reaction of **aqueous saline** solution with colouring agent.
DC D13 Q32 Q75 T05
PA (SALA-I) SALA F; (SALS-I) SALA F
CYC 14
PI BE 883718 A 19801001 (198042)*
DE 3021582 A 19801217 (198101)
NL 8003314 A 19801209 (198102)
BR 8003533 A 19810105 (198105)
NO 8001691 A 19810105 (198106)
DK 8002456 A 19810119 (198107)
SE 8004262 A 19810126 (198107)
FI 8001831 A 19810130 (198108)
FR 2458801 A 19810206 (198113)
ZA 8003404 A 19810413 (198126)
DD 151358 A 19811014 (198202)
CA 1153254 A 19830906 (198339)
CH 642746 A 19840430 (198420)
IT 1121784 B 19860423 (198730)
PRAI **IT 1979-23388 19790608; IT 1979-24091 19790704**
IC A23L000-00; B01D017-02; B65D000-00; C07C000-00; F25D021-00; G01K003-00; G01K005-32; G01K011-06; G01N013-02; G01N025-04; G01N033-02; G08B021-00
AB BE 883718 A UPAB: 19930902
An **aqueous saline** solution and a colouring agent are separated by a mechanical partition. When temperature falls below f.pt. a resultant volumetric change of the **saline** solution Breaks or displaces the partition to permit contact between the solution and the colouring agent.
Because of their physical states, the solution and the colouring agent cannot mix together until a suitable temperature rise takes place, when a visible and **irreversible** interaction takes place between the solution and the colouring agent.
Used for detecting and indicating that a prod. has defrosted, even for a brief period. Such a transitory defrosting should be obvious when storing frozen foods, pharmaceuticals and chemical prods. - frozen foods in partic. lose quality if defrosted and refrozen.
It is inexpensive and simple, easily adaptable for different temps. and delay periods.
FS CPI EPI GMPI
FA AB
MC CPI: D03-H02
EPI: T05-G02

L17 ANSWER 20 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1980-19979C [11] WPIX
TI Accurate and reliable freeze indicator - comprising a frangible container holding a liquid, nucleating agent and surfactant.
AW POLYOXYETHYLENE SORBITAN MONO OLEATE.
DC A97 E37 G04 S03
IN JOHNSON, C D

PA (ALKU) AKZONA INC
CYC 2
PI US 4191125 A 19800304 (198011)*
CA 1111716 A 19811103 (198149)
CA 1118646 A 19820223 (198212)
PRAI **US 1978-921940 19780703**
IC G01K001-02; G01K011-08; G12B001-00
AB US 4191125 A UPAB: 19930902
A freeze indicator comprises a frangible container housing a liquid which expands upon freezing and fractures the container. The liquid contains an insoluble nucleating agent, with similar molecular space grouping to theliq., and a surfactant. An indicator responsive to the liquid is in close association with the container.

The nucleating agent prevents undercooling of the liquid The surfactant provides increased contact between the nucleating agent and the liquid and also decreases the surface tension between the fractured container and liquid, so that an immediate indication of freezing is obtd.

The use of cupric, ferrous, Mo or W sulphide, Zn metal, Ag iodide or beryllium aluminium silicate as the nucleating eating agent; polyoxyethylene (20) sorbitan monooleate as the surfactant; and **water** and/or deuterium oxide as the liquid is claimed.

FS CPI EPI
FA AB
MC CPI: A12-L; A12-P; A12-W12C; E05-R; E06-A02; E07-A02; E31-A; E31-P02; E35; G04-B09
PLC UPA 19930924
KS: 0013 0209 0214 0231 0759 1279 1282 1588 2002 2014 2595 2628 2686 2706 2733 2790 2857

FG: *001* 011 028 04- 061 062 063 147 198 226 231 240 289 31- 336 351 381 51- 516 523 551 560 566 609 623 624 643 678 688 720 721 724 726
CMC UPB 19930924
RIN 00996

M3 *01* A547 A940 C730 C108 C100 C116 C803 C806 C802 C807 C805 C804 B720 C801 C540 B831 A204 A238 A313 A426 A429 A500 A600 B114 C053 B701 B712 Q335 Q337 M782 R032 R035 R036 M411 M902
M3 *02* K0 M226 M231 M232 M233 M270 M281 M316 M320 K421 K422 M620 M630 M510 Q335 Q337 M520 M530 M540 Q602 Q616 M782 R023 R024 M416 M902
M3 *03* H4 J2 H5 M225 M231 M260 M281 M312 M332 M323 M342 M380 M393 H401 H481 J271 H581 H583 H584 H589 M620 M510 J0 H8 Q335 Q337 M520 M530 M540 Q602 Q616 M782 R023 R024 M416 M902
M3 *04* K0 H4 J2 H5 H7 M210 M231 M260 M281 M311 M312 M332 M321 M323 M342 M340 M343 M380 M370 M391 M393 D160 F113 F123 L810 H401 H421 H481 H422 H423 H424 H482 H483 H484 J271 H521 H523 H581 H583 H584 H589 H721 H403 M510 M511 J0 H8 Q335 Q337 M520 M521 M530 M540 Q602 Q616 M782 R021 R022 R023 R024 M412 M413 M902
M3 *05* C800 C730 C101 C108 C802 C807 C805 C804 C801 C550 C811 C812 Q335 Q337 M782 Q505 R023 R024 M411 M902
M3 *06* A200 A204 A238 A300 A313 A426 A429 A500 A539 A540 A541 A542 A543 A544 A545 A547 A600 A657 A672 A673 A674 A675 A676 A677 A679 A940 A990 B114 B701 B712 B720 B831 C000 C053 C100 C108 C116 C540 C730 C801 C802 C803 C804 C805 C806 C807 M411 M782 M903 Q335 Q336 Q337 R032 R035 R036
M3 *07* K0 K421 K422 M226 M231 M232 M233 M270 M281 M316 M320 M416 M510 M520 M530 M540 M620 M630 M782 M903 Q335 Q336 Q337 Q602 Q616 R023 R024
M3 *08* H4 H401 H481 H5 H581 H583 H584 H589 H8 J0 J011 J2 J271 M225 M231 M260 M281 M312 M323 M332 M342 M380 M393 M416 M510 M520 M530 M540 M620 M782 M903 Q335 Q336 Q337 Q602 Q616 R023 R024
M3 *09* D000 D011 D012 D013 D014 D015 D016 D021 D022 D023 D024 D025 D026 D030 D160 F000 F010 F011 F012 F013 F014 F015 F016 F017 F018 F113 F123 H4 H401 H402 H403 H404 H421 H422 H423 H424 H481 H482 H483 H484 H5 H521 H523 H581 H583 H584 H589 H7 H721 H8 J0 J011 J2 J271 K0 L810 L811 L812 L813 L814 L815 L816 L817 L818 L821

L17 ANSWER 21 OF 23 JAPIO (C) 2004 JPO on STN
AN 1987-151746 JAPIO
TI PRECISE CALORIMETER
IN ITO MASAJIRO; ITOU AKIHIRO; ITO HIROYASU
PA ITO MASAJIRO
PI JP 62151746 A 19870706 Showa
AI JP 1985-294803 (JP60294803 Showa) 19851226

PRAI **JP 1985-29480319851226**
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1987
IC ICM G01N025-20
ICS G01K017-00; G01N033-483
AB PURPOSE: To measure the quantity of heat generation of a sample by a calorimeter precisely and easily by providing a detection chamber in a thermostatic chamber, controlling the temperature of the liquid in the thermostatic chamber and the temperature of the liquid in the detection chamber, and measuring the quantity of heat generation of the sample. CONSTITUTION: A heater 8, a stirrer 12, and a detection unit 14 are provided in the thermostatic chamber 2. A sample passage pipe 18, a reference heater 16, and a thermocouple 20 are provided in the detection unit 14. This constituted detection block is put in an aluminum column 24 and the outside is surrounded with an aluminum cylinder 26, which is sealed with a lid 25. **Water** is put in the thermostatic chamber 2 and perfluorocarbon, etc., is put in the aluminum cylinder 26. Then, the sample, e.g. mixed liquid of serums and red blood cells is made to flow in the pipe 18 and stirred by a mixer 30, and the quantity of heat generation by reaction is detected by the thermocouple 20. At this time, the **water** in the thermostatic chamber 2 and the liquid in the aluminum cylinder 26 are brought under temperature control. Thus, the sample temperature is controlled precisely, so the quantity of heat generation of the sample is measured with high accuracy. COPYRIGHT: (C)1987,JPO&Japio

L17 ANSWER 22 OF 23 HCAPLUS COPYRIGHT ACS on STN
AN 2001:723367 HCAPLUS
ED Entered STN: 04 Oct 2001
TI Package for keeping goods in a temperature-decreased, preservative state and a temperature indicator therefor
IN Norrby, Henry; Nygardh, Mats

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2001072601	A1	20011004	WO 2001-SE650	20010326	<--
	SE 2000001069	A	20010928	SE 2000-1069	20000327	
	SE 516019	C2	20011112			
	CA 2404892	AA	20011004	CA 2001-2404892	20010326	<--
	BR 2001009308	A	20021217	BR 2001-9308	20010326	<--
	EP 1276679	A1	20030122	EP 2001-918066	20010326	<--
	JP 2003528779	T2	20030930	JP 2001-570529	20010326	<--
PRAI	SE 2000-1069	A	20000327	<--		
	WO 2001-SE650	W	20010326			

AB In a first aspect, the invention relates to a package (1) for keeping goods in a temperature-decreased, preservative state, in which the temperature should have a certain desired value. According to the invention, the package is connected to a temperature indicator (2) comprising means, which preserves a certain property when the temperature of the goods is decreased towards and past a predetermined limit value, which is at least somewhat higher than said desired value, but which alters this property in an **irreversible** way if the temperature during the storage would rise to or above said limit value. Advantageously, the temperature indicator (2) may be transparent as long as the temperature is lower than said limit value, but become opaque when the limit value is exceeded, e.g. in order to make reading of a bar-code (8) impossible. In a second aspect, the invention also relates to the temperature indicator as such.
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Hill; DE 2617046 A1 1977
(2) Manske; US 4457252 A 1984
(3) Muller; DE 20011465 U1 2000 HCAPLUS
(4) Wagner, M; DE 19912529 A1 2000 HCAPLUS

L17 ANSWER 23 OF 23 HCAPLUS COPYRIGHT ACS on STN
AN 1984:82416 HCAPLUS
DN 100:82416
ED Entered STN: 12 May 1984
TI Immunological agglutination assays with dyed or colored **latex** and kits
IN Dorman, Linneaus C.; Bangs, Leigh B.
PA Dow Chemical Co., USA
SO U.S., 7 pp. Cont.-in-part of U.S. Ser. No. 306,067, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC G01N033-54; G01N033-76
NCL 436534000

CC 9-2 (Biochemical Methods)
Section cross-reference(s): 2, 15
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4419453	A	19831206	US 1982-431528	19820930 <--
PRAI US 1981-306067		19810928 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 4419453	IC	G01N033-54IC G01N033-76
	NCL	436534000

AB In the title assays, dyed **latex** polymer particles are used and a **H2O**-soluble, nonlatex polymer particle-absorbing dye contrasting in color to the dyed **latex** polymer particles is added to produce a reaction mixture that **changes color when agglutination occurs**. For example, chorionic gonadotropin was determined in human urine with blue-dyed styrene-glycidyl methacrylate **latex**-chorionic gonadotropin conjugate, crocein 3BA red, and chorionic gonadotropin antiserum. The formation of purple color indicated agglutination. The title assay is suggested for determination of proteins, antibodies, antigens, haptens, or polysaccharides.

ST **latex** agglutination test dye; antigen detn **latex** agglutination test; antibody detn **latex** agglutination test; urine chorionic gonadotropin detn

IT Urine analysis
(chorionic gonadotropin determination in, of women by **latex** agglutination test)

IT Antibodies
Antigens
Carbohydrates and Sugars, analysis
Haptens
Proteins
RL: ANT (Analyte); ANST (Analytical study)
(determination of, by **latex** agglutination test with dyes)

IT Dyes
(in **latex** agglutination tests)

IT Immunochemical analysis
(**latex** agglutination assay, dyes in)

IT 9002-61-3
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in urine of women by **latex** agglutination test)

IT 88895-09-4
RL: ANST (Analytical study)
(in **latex** agglutination test for chorionic gonadotropin)

IT 6994-46-3DP, reaction products with styrene-glycidyl methacrylate copolymer 9002-61-3DP, reaction products with blue dyes and styrene-glycidyl methacrylate copolymer 25167-42-4DP, reaction products with Calco Oil Blue N and chorionic gonadotropin
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, for **latex** agglutination test)

L23 ANSWER 1 OF 1 HCAPLUS COPYRIGHT ACS on STN
AN 1948:4263 HCAPLUS
DN 42:4263
OREF 42:935e-i,936a-c
ED Entered STN: 22 Apr 2001
TI **Synovial fluid mucin**
AU Ropes, Marian W.; Robertson, Wm. v. B.; Rossmeisl, Elsie C.; Peabody, R. Barbara; Bauer, Walter
CS Harvard Med. School, Boston
SO **Acta Medica Scandinavica (1947), 128(Suppl. 196), 700-44**
CODEN: AMSVAZ; ISSN: 0001-6101
DT Journal
LA Unavailable
CC 11A (Biological Chemistry: General)
AB The highly viscous protein-polyglucide complex mucin is principally of mesodermal origin. Epithelial mucins differ from these in composition, appearance, and reaction to specific enzymes. Half-liter quantities of synovial fluid (cattle) were diluted to 2 l. and AcOH was added to 1%. The precipitated mucin was washed with **H2O**, redissolved in 0.05 M Na2HPO4 and repptd. with AcOH. Mucin is insol. in AcOH, alc., ether, or acetone; it is precipitated by tungstic acid, trichloroacetic acid, or heavy metals. It is salted out by 60% (NH4)2SO4, 22.5% Na2SO4, or by

2.3 M phosphate at pH 6.5. The polyglucide moiety is a white, fluffy, fibrous substance soluble in **H2O**, acids, or alkalies, but insol. in alc. or acetone. The most characteristic phys. property of mucin is the high viscosity which is largely due to the polyglucide portion. It is responsible for the viscosity of synovial fluid. The viscosity of its solns. does not vary directly with the concentration but an empirical relationship was found between the log of viscosity and the square root of concentration The presence of salts greatly reduces the viscosity of mucin or of polyglucide solns. The viscosity increases from pH 11 to pH 4 (isoelec. point of mucin), where the mucin ppts. out from solution, but it redissolves at pH 3.7 with a much lower viscosity. The viscosity is reversibly decreased with **increasing temperature** but the reduction of viscosity due to reduction in mol. size, resulting from enzymic degradation, is **irreversible**. In normal synovial fluid the polyglucide of the mucin is highly polymerized (high viscosity and large mol. weight) but, when the mol. is split, the viscosity drops to about that of **water**, and with AcOH, instead of the tough ropy precipitate, a progressively less cohesive material is formed. Such breakdown can be achieved by various **bacterial** enzymes, like hyaluronidase, or by **nonbacterial** enzymes (testicle, sperm, skin, cornea, leech heads, bee venom, etc.), and the viscosity can be decreased in vivo in a few min. The liberation of hexosamine and reducing substances by these agencies follows much slower (24-48 hrs.). Antiserums have been prepared which can inhibit these changes in the mucin. Besides these enzymes there are other substances (ascorbic acid) which cause only an **irreversible** decrease in viscosity. All these induce the "spreading" phenomenon owing to increased permeability. The **bacterial** and tissue enzymes are specific for the mesothelial mucins (synovial fluid, vitreous humor), but not the epithelial mucins or chondroitinsulfuric acid. Normal synovial fluid does not show any hyaluronidase activity; it does contain 2 substances responsible for nonspecific in vitro decrease in mucin viscosity (ascorbic acid and alkaline phosphatase) but there is no evidence of an in vivo breakdown of mucin. Joint diseases affect formation and destruction of mucin. Traumatic inflammation apparently stimulates formation of mucin by connective tissue cells. Abnormally high mucin concns. are found in certain pathol. conditions of the joints; also, a reduced viscosity per unit concentration of mucin **indicates** the occurrence of some breakdown. In rheumatoid arthritis the degradation of the mucin increases proportionally with the severity of the joint involvement with loss of viscosity. The changes in the mucin are frequently of great value in differential diagnosis or even in prognosis. Signs of marked degradation of mucin in synovial fluid tends to rule out any traumatic types of joint disease. The physiol. functions of mucin are discussed.

IT Blood serum
(antiserums, mucin and)
IT Joints
(diseases of, mucin in)
IT Mucins
(from synovial fluid)
IT Injury
(inflammation in, mucins and)
IT Synovial fluid
(mucin of)
IT Arthritis
(mucins in rheumatoid)
IT Inflammation
(mucins in traumatic)
IT Glucides
(poly-, in synovial fluid mucin)

L31 ANSWER 3 OF 13 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1995-067312 [09] WPIX
DNC C1995-029788
TI Bonding articles together using poly hydroxy alkanoate(s) - which are biodegradable, useful in packaging, carton sealing, sanitary towels, disposable nappies, hospital equipment, etc..
IN KEMMISH, D J
PA (ZENE) ZENECA LTD; (MONS) MONSANTO CO

PI	WO 9502649	A1	19950126 (199509)*	EN	17	C09J167-04
	AU 9471292	A	19950213 (199519)			C09J167-04
	FI 9600158	A	19960112 (199613)			C09J000-00
	NO 9600153	A	19960112 (199613)			C09J000-00
	EP 708804	A1	19960501 (199622)	EN		C09J167-04
	JP 09500157	W	19970107 (199711)		16	C09J167-04
	AU 685135	B	19980115 (199809)			C09J167-04
	US 5711842	A	19980127 (199811)		4	C09J004-00
	EP 708804	B1	19981125 (199851)	EN		C09J167-04
	DE 69414854	E	19990107 (199907)			C09J167-04

PRAI GB 1993-14577 19930714

AB WO 9502649 A UPAB: 19971113
Bonded articles in which the bond comprises a polyhydroxyalkanoate.
Also claimed is bonding 2 or more articles together using an adhesive compsn. comprising polyhydroxyalkanoate(s) (PHAs) by placing the PHA between the articles to be bonded and subjecting them to pressure to set the adhesive, opt. at **elevated temperature**.
Pref. the PHA is a polymer or copolymer of hydroxybutyric acid, pref. a copolymer of hydroxybutyric acid and hydroxyvaleric acid, especially containing 10-28 mol.% hydroxyvaleric units. The PHA is derived from a **microorganism**. It is applied to the article(s) (i) as a **latex** of PHA particles in **water**, pref. without heating and using a pressure of 34.6-690 bar; or (ii) as solid and the adhesive is subsequently set at an **elevated temperature**. A nucleant, tackifier, plasticiser, antioxidant, stabiliser, colourant or filler may be present. A PHA capable of attaining a high level of crystallinity is applied to the article(s) in a condition of low crystallinity and is set by increasing the crystallinity.
USE - The PHAs are useful in sealing operations, e.g. packaging and carton sealing, sanitary towels, disposable nappies and hospital equipment. They are useful for disposable articles in which flexible film material(s) is bonded to tissue, nonwoven, polyolefin or other flexible polymeric film substrate(s), or bonding elastic to polyethylene, polypropylene or a nonwoven substrate.
ADVANTAGE - The adhesive is biodegradable. Dwg.0/0
ABEQ US 5711842 A UPAB: 19980316
Bonded articles in which the bond comprises a polyhydroxyalkanoate.
Also claimed is bonding 2 or more articles together using an adhesive compsn. comprising polyhydroxyalkanoate(s) (PHAs) by placing the PHA between the articles to be bonded and subjecting them to pressure to set the adhesive, opt. at **elevated temp.**.
Pref. the PHA is a polymer or copolymer of hydroxybutyric acid, pref. a copolymer of hydroxybutyric acid and hydroxyvaleric acid, esp. contg. 10-28 mol.% hydroxyvaleric units. The PHA is derived from a **microorganism**. It is applied to the article(s) (i) as a **latex** of PHA particles in **water**, pref. without heating and using a pressure of 34.6-690 bar; or (ii) as solid and the adhesive is subsequently set at an **elevated temp.**. A nucleant, tackifier, plasticiser, antioxidant, stabiliser, colourant or filler may be present. A PHA capable of attaining a high level of crystallinity is applied to the article(s) in a condition of low crystallinity and is set by increasing the crystallinity.
USE - The PHAs are useful in sealing operations, e.g. packaging and carton sealing, sanitary towels, disposable nappies and hospital equipment. They are useful for disposable articles in which flexible film material(s) is bonded to tissue, nonwoven, polyolefin or other flexible polymeric film substrate(s), or bonding elastic to polyethylene, polypropylene or a nonwoven substrate.
ADVANTAGE - The adhesive is biodegradable.
Dwg.0/0
FS CPI
FA AB
MC CPI: A03-C; A05-E02; A09-A07; A11-C01D; A12-A05A; A12-A05E; D09-C03; F02-C01; F03-D01; F04-C01; F04-E; F04-E04; F04-F01; F04-F03; G03-B02E3
PLE UPA 19971113

L31 ANSWER 4 OF 13 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1992-170731 [21] WPIX
DNC C1992-078495
TI Preparation of ceramic material for soil conditioning - comprises granulating fine coal ash and organic binder resin, and calcining at high temperature.
DC C04 L02
PA (OGAW-N) OGAWA DENKI KK
CYC 1
PI JP 04106189 A 19920408 (199221)* 4
ADT JP 04106189 A JP 1990-225925 19900827
PRAI JP 1990-225925 19900827
IC C09K017-00
AB JP 04106189 A UPAB: 19931006
A ceramic material for soil conditioning obtd. by granulating fine coal ash (fly ash) organic binder resin into particles having a dia. of 1-20 (3-15)mm only by making use of adhesive strength of the binder and without pressurising and then calcining those particles at a high temperature into porous particles.
Pref. a representative compsn. of fly ash is 48-63 weight % SiO2, 35-24 weight % of Al2O3, 1.7-2.2 weight % TiO2, 5.4-1.4 weight % Fe2O3, 1.1-0.7 weight % CaO, 0.5-1.5 weight % MgO, 0.1-

0.9 weight % Na20 and 0.7-0.2 weight % K20. Examples of organic binder resins are **water** soluble resins like starch, CMC and Na alignate, synthetic resin **latexes** and rubber **latexes**. Suitable amts. of binder and **water** are 0.5-2 and 10-15 weight % fly ash. Granulated particles are calcined at 1,000 deg.C C x 2 h. + 1,300 deg. C x 2 h. One cycle time of calcination is about 24 hr. including **temperature raising** and natural cooling.

USE/ADVANTAGE - The ceramic material is suitable as a soil conditioner which is used in agriculture and horticulture. This ceramic material has uniform, stable, high porosity and is inorganic material free from organic materials and harmful **bacteria** and exhibits good air permeability, **water** absorption property and retention of fertiliser, **water** and enzyme. Furthermore, it can repeat **water** absorption and desorption depending on conditions. Therefore, this soil conditioner promotes growth of plants. (0/0) 0/0

FS CPI
FA AB; DCN
MC CPI: C04-C02; C04-C03D; C04-D02; C12-N08; L02-H04
DRN 1835-U; 1863-U; 1866-U
CMC UPB 19930924
M1 *01* M423 M431 M782 M903 P126 Q453 R032 R044 V793
M1 *02* J0 J011 J1 J111 M423 M431 M630 M782 M903 M904 M910 P126 Q331 Q453 R032 R044 V0 V733
DCN: R07226-M
M1 *03* M423 M431 M782 M903 M904 M910 P126 Q331 Q453 R032 R044 V0 V723
DCN: R01863-M
M1 *04* H5 H521 H8 J0 J011 J1 J171 M280 M311 M321 M342 M381 M391 M423 M431 M782 M903 M904 M910 P126 Q331 Q453 R032 R044 V0 V713
DCN: R01835-M
M1 *05* M423 M431 M782 M903 P126 Q453 R032 R044 V400 V406 V741

L31 ANSWER 5 OF 13 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1980-10237C [06] WPIX
TI Sulphur-treated insoles - prepared by printing insoles with **aqueous** dispersion containing sulphur powder and formaldehyde-free thermoplastic polymer and drying.
DC A60 A83 G02 P22
PA (MIYA-N) MIYABAYASHI SANGYO K; (OZAK-N) OZAKI KK
CYC 1
PI JP 54163139 A 19791225 (198006)*
PRAI JP 1978-71988 19780613
IC A43B013-38; A43B017-00
AB JP 54163139 A UPAB: 19930902
S-treated insoles for shoes are produced by (a) preparing an **aqueous** dispersion containing S powder, and formaldehyde-free thermoplastic polymer as the vehicle; (b) printing insoles (or parts of the insolves which will come itno contact with users' foot-soles) with the dispersion; and (c) drying at **elevated temperature**

Dispersion is prepared e.g. by mixing 100 pts. weight EVA **latex** with 50 pts.weight 300 mesh powdery S.

Insoles have disinfectant properties. The active substance S is relatively nontoxic and has sufficient **bacteria**-controlling effect.

FS CPI GMPI
FA AB
MC CPI: A04-G07; A12-C04; G02-A05
PLC UPA 19930924
KS: 0231 0241 0789 2430 2504 2713 2718

FG: *001* 011 034 04- 041 046 047 066 067 27& 397 431 436 477 619 620
FG: *002* 011 034 04- 041 046 047 066 067 27& 397 431 436 477 619 620

L31 ANSWER 6 OF 13 HCAPLUS COPYRIGHT ACS on STN
AN 2000:149135 HCAPLUS
DN 133:40432
ED Entered STN: 06 Mar 2000
TI Screening and characterization of **ice nucleation** -active **bacteria** from the leaves of vegetables
AU Hwang, Wen-Zhe; Lee, Tung-Ching
CS Department of Food Science, National Chung Hsing University, Taichung, Taiwan
SO **Shipin Kexue (Taipei) (1999), 26(6), 632-640**
CODEN: SPKHE6; ISSN: 0253-8997
PB Chinese Institute of Food Science and Technology

DT Journal
LA Chinese
CC 10-6 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 17
AB Five gram-neg. **bacterial** strains with **ice nucleation** activity were isolated from the leaves of vegetables by using King's agar plating and droplet-freezing assay. Pseudomonas **INA**-3 showed the highest **ice-nucleation** activity. The **threshold temperature** of **ice nucleation** associated with **INA**-3 is -4.8 °C. **INA**-3 **bacterial** cells caused freezing of sucrose solns. containing 5-20% sucrose.
ST **ice nucleation** Pseudomonas
IT Crystal nucleation
Erwinia
Freezing
Pseudomonas
Vegetable
(**ice nucleation**-active **bacteria** from leaves of vegetables)
IT **Ice**
(**nucleation**-active **bacteria** from leaves of vegetables)
IT 7732-18-5, **Water**, biological studies
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(**ice nucleation**-active **bacteria** from leaves of vegetables)

L31 ANSWER 7 OF 13 HCAPLUS COPYRIGHT ACS on STN
AN 2000:55727 HCAPLUS
DN 132:191690
ED Entered STN: 23 Jan 2000
TI Influence of **water** activity on the **ice-nucleating** activity of Pseudomonas syringae
AU Blondeaux, A.; Hamel, J-F.; Widehem, P.; Cochet, N.
CS Departement Genie Chimique, Universite de Technologie de Compiegne, Compiegne, 60205, Fr.
SO Journal of Industrial Microbiology & Biotechnology (1999), 23(6), 514-519
CODEN: JIMBFL; ISSN: 1367-5435
PB Stockton Press
DT Journal
LA English
CC 10-6 (Microbial, Algal, and Fungal Biochemistry)
AB P. syringae is known as a biol. **ice-nucleating** agent. The **bacterium** has the unusual property of **increasing** the **temperature** at which **water** freezes by a few degrees. However, the **ice-nucleating** activity (**INA**) always remains lower for in vitro cultivated cells than for cells grown in planta. The effects of the hydrophobic environment and of **water** availability on the in vitro growth and **INA** of P. syringae were examined The hydrophobic environment was modified by addition of fatty acids, vegetable oils, or silicone oil to the culture medium. Addition of olive oil (1%) or traces of silicone oil in the culture medium had a pos. effect upon the expression of **INA**. Variations in **water** activity from 0.990 to 0.988 by addition of sugar beet fibers or NaCl in the culture medium were followed by an increase in **INA**. This study suggested that control of the medium's **water** activity must be considered as an important parameter for optimization of **INA** in P. syringae.
ST **water** activity **ice nucleation** Pseudomonas
IT Sugar beet
(fiber; **water** activity and the **ice-nucleating** activity of Pseudomonas syringae response to)
IT Polysiloxanes, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**water** activity and the **ice-nucleating** activity of Pseudomonas syringae response to)
IT Ice
Pseudomonas syringae
(**water** activity effect on the **ice-nucleating** activity of Pseudomonas syringae)
IT 7732-18-5, **Water**, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(activity; **water** activity effect on the **ice-nucleating** activity of Pseudomonas syringae)
RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
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(12) Lindow, S; Cryobiology 1995, V32, P247 MEDLINE
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(15) Pooley, L; FEMS Microbiol Lett 1991, V77, P229 HCAPLUS
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(18) Troller, J; Food Technol 1980, V34, P76 HCAPLUS
(19) Turner, M; J Bacteriol 1991, V173, P6515 HCAPLUS
(20) Vali, G; J Atm Sci 1971, V28, P402
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(22) Watanabe, M; Agric Biol Chem 1989, V53, P2731 HCAPLUS
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L31 ANSWER 8 OF 13 HCAPLUS COPYRIGHT ACS on STN

AN 1997:569596 HCAPLUS
DN 127:260435
ED Entered STN: 06 Sep 1997
TI Avoidance of intracellular freezing by the freezing-tolerant New Zealand alpine weta Hemideina maori (orthoptera: stenopelmatidae)
AU Sinclair, Brent J.; Wharton, David A.
CS Department of Zoology, University of Otago, Dunedin, N. Z.
SO Journal of Insect Physiology (1997), 43(7), 621-625
CODEN: JIPHAF; ISSN: 0022-1910
PB Elsevier
DT Journal
LA English
CC 12-6 (Nonmammalian Biochemistry)
AB Calorimetric anal. indicates that 82% of the body **water** of Hemideina maori is converted into ice at 10°. This is a high proportion and led us to investigate whether intracellular freezing occurs in H. maori tissue. Malpighian tubules and fat bodies were frozen in hemolymph on a microscope cold stage. No fat body cells, and 2% of Malpighian tubule cells freeze during cooling to -8°. Unfrozen cells appeared shrunken after ice formed in the extracellular medium. There was no difference between the survival of control tissues and those frozen to -8°. At temps. below -15° (lethal temps. for weta), there was a decline in survival, which was strongly correlated with **temperature**, but no **change** in the appearance of tissue. It is concluded that intracellular freezing is avoided by Hemideina maori through osmotic dehydration and freeze concentration effects, but the reasons for low temperature mortality remain unclear. The freezing process in H. maori appears to rely on extracellular **ice nucleation**, possibly with the aid of an **ice nucleating** protein, to osmotically dehydrate the cells and avoid intracellular freezing. The lower lethal temperature of H. maori (-10°) is high compared to **organisms** that survive intracellular freezing. This suggests that the category of 'freezing tolerance' is an oversimplification, and that it may encompass at least two strategies: intracellular freezing tolerance and avoidance.
ST Hemideina freezing tolerance
IT Dehydration, physiological
Fat body
Freezing
Hemideina maori
Malpighian tubule
(avoidance of intracellular freezing by freezing-tolerant New Zealand alpine weta Hemideina maori (orthoptera: stenopelmatidae))
IT Temperature effects, biological
(cold; avoidance of intracellular freezing by freezing-tolerant New Zealand alpine weta Hemideina maori (orthoptera: stenopelmatidae))
IT Proteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process)
(**ice-nucleating**; avoidance of intracellular freezing by freezing-tolerant New Zealand alpine weta Hemideina maori (orthoptera: stenopelmatidae))

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(7) Ramlov, H; Cryobiology 1996, V33, P607 MEDLINE
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(10) Sokal, R; Biometry, 2nd edn 1981
(11) Wharton, D; J Exp Biol 1995, V198, P1381
(12) Wilson, P; Comp Biochem Physiol 1995, V112B, P535 HCAPLUS
(13) Zachariassen, K; Insects at Low Temperature 1991, P47
(14) Zachariassen, K; Nature 1976, V262, P285 MEDLINE

L31 ANSWER 9 OF 13 HCAPLUS COPYRIGHT ACS on STN

AN 1994:212611 HCAPLUS
DN 120:212611
ED Entered STN: 30 Apr 1994

TI Characterization and quantification of intrinsic **ice nucleators** in winter rye (Secale cereale) leaves

AU Brush, Ruth Anne; Griffith, Marilyn; Mlynarz, Andrzej
CS Dep. Biol., Univ. Waterloo, Waterloo, ON, N2L 3G1, Can.

SO Plant Physiology (1994), 104(2), 725-35
CODEN: PLPHAY; ISSN: 0032-0889
DT Journal
LA English
CC 11-1 (Plant Biochemistry)

AB Extracellular ice formation in frost-tolerant **organisms** is often initiated at specific sites by **ice nucleators**. In this study, the authors examined **ice nucleation** activity (**INA**) in the frost-tolerant plant winter rye (Secale cereale). Plants were grown at 0°C, at 5°C with a long day, and at 5°C with a short day (5°C-SD). The **threshold temperature** for **INA** was -5 to -12°C in winter rye leaves from all three growth treatments. Epiphytic **ice nucleation**-active **bacteria** could not account for **INA** observed in the leaves. Therefore, the **INA** must have been produced endogenously. Intrinsic **ice nucleators** were quantified and characterized using single mesophyll cell suspensions obtained by pectolytic degradation of rye leaves. The most active **ice nucleators** in mesophyll cell suspensions exhibited a **threshold ice nucleation temperature** of -7°C and occurred infrequently at the rate of one nucleator per 105 cells. Rye cells were treated with chems. and enzymes to characterize the **ice nucleators**, which proved to be complexes of proteins, carbohydrates, and phospholipids, in which both disulfide bonds and free sulfhydryl groups were important for activity. Carbohydrates and phospholipids were important components of **ice nucleators** derived from 20°C leaves, whereas the protein component was more important in 5°C-SD leaves. This difference in composition or structure of the **ice nucleators**, combined with a tendency for more frequent **INA**, suggests that more **ice nucleators** are produced in 5°C-SD leaves. These addnl. **ice nucleators** may be a component of the mechanism for freezing tolerance observed in winter rye.

ST **ice nucleator** rye protein carbohydrate complex; phospholipid protein complex freezing tolerance rye

IT Disulfide group
Mercapto group
(of protein complexes with carbohydrates and phospholipids, of rye, **ice nucleator** activity in relation to)

IT Plant adaptation
(to freezing, by winter rye, **ice nucleators** in)

IT Glycolipoproteins
RL: BIOL (Biological study)
(phospho-, **ice nucleators**, in winter rye leaves)

IT Rye
(winter, **ice nucleators** in, complexes of proteins and carbohydrates and phospholipids as)

IT 7732-18-5, **Water, ice**
RL: BIOL (Biological study)
(**nucleation**, in frost-tolerant plant, complexes of proteins

and carbohydrates and phospholipids in)

L31 ANSWER 10 OF 13 HCAPLUS COPYRIGHT ACS on STN
AN 1989:11038 HCAPLUS
DN 110:11038
ED Entered STN: 06 Jan 1989
TI Concentration effects of **ice nucleating** active **bacteria** on **water** nucleation temperature
AU Stewart, W. E., Jr.; Bear, L. L.
CS Univ. Missouri-Columbia/Kansas City, Independence, MO, 64050, USA
SO Proceedings of the Intersociety Energy Conversion Engineering Conference (1988), 23rd(Vol. 2), 147-9
CODEN: PIECDE; ISSN: 0146-955X
DT Journal
LA English
CC 52-3 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 10
AB The effect of solution concentration and freezing of a com. available strain of **ice-nucleating** active **bacteria** Pseudomonas syringae on the heterogeneous **ice nucleation** temperature of **bacteria/water** solns. was investigated with regard to heat storage in air conditioning and refrigeration systems. To determine the heterogeneous nucleation temperature at various concns. of the **bacteria** , several expts. were performed using stirred solns. and single suspended drops of solution The concentration expts. show heterogeneous nucleation temps. of -1.3° at a concentration of 105 cells/mL. Expts. were also performed to determine the survival of the **bacteria** in **water** solns. subjected to freeze/thaw cycles. For the exptl. conditions, the heterogeneous nucleation **temperature increases** until concns. of ≥105 cells/mL are reached. Freezing of different concns. of **bacteria** at -20° essentially destroyed the **bacteria** .
ST **ice nucleation bacteria** heat storage; **water** heat storage **ice nucleation**; Pseudomonas syringae **ice nucleation water**; air conditioning **ice nucleation bacteria**; refrigeration **ice nucleation bacteria**
IT Pseudomonas syringae
(concentration of, **water** nucleation temperature in relation to, for heat storage application in air conditioning and refrigeration systems)
IT Crystal nucleation
(of ice, temperature of, in subcooled **water**, Pseudomonas syringae concentration effect on, heat storage in air conditioning and refrigeration systems in relation to)
IT **Bacteria**
(**ice-nucleating**, concentration of, **water** nucleation temperature in relation to, for heat storage application in air conditioning and refrigeration systems)
IT 7732-18-5, **Water**, properties
RL: PRP (Properties)
(**ice nucleation** temperature of subcooled, Pseudomonas syringae concentration effect on, heat storage in air conditioning and refrigeration systems in relation to)
IT 7732-18-5, **Water, ice**
RL: PRP (Properties)
(**nucleation** temperature of, in subcooled **water**, Pseudomonas syringae concentration effect on, heat storage in air conditioning and refrigeration systems in relation to)

L31 ANSWER 11 OF 13 HCAPLUS COPYRIGHT ACS on STN
AN 1987:542097 HCAPLUS
DN 107:142097
ED Entered STN: 17 Oct 1987
TI The stability of **latex** particles in **aqueous** suspensions
AU Wilkinson, M. C.; Hearn, J.; Karpowicz, F. H.; Chainey, M.
CS Chem. Def. Establ., Salisbury/Wilts., SP4 0JQ, UK
SO Particulate Science and Technology (1987), 5(1), 65-82
CODEN: PTCHDS; ISSN: 0272-6351
DT Journal
LA English
CC 66-4 (Surface Chemistry and Colloids)
Section cross-reference(s): 36

AB Monodisperse polystyrene-divinylbenzene **latexes** of 2, 4 and 9 μm diameter used as particle stds. with respect to both particle size and particle number d., were studied by a variety of techniques, and under a variety of storage conditions. The sizing and counting techniques employed light microscopy, electron microscopy (both transmission and scanning) and Coulter counting. Polymeric stabilizer and **bacteriocide** additives were employed at different levels and their effects on long term (3 yr) stability monitored at different particle number densities. Accelerated ageing expts. employed included **elevated** and reduced **temps.**, light exposure, centrifugation and freeze-thaw cycles. The **latexes** were remarkably stable in the presence of the selected stabilizer/**bacteriocide** combination.

ST **latex** particle stability **aq** suspension; polystyrene divinylbenzene particle stability suspension; **bacterioside** stabilizer particle stability suspension

IT **Latex**
(particle stability of, in **aqueous** solns., effect of stabilizer-**bacterioside** combination on)

IT 110463-15-5 110463-16-6
RL: PRP (Properties)
(**latex** particle stability in **aqueous** solution in presence of **bacterioside** and)

IT 9003-70-7, Polystyrene divinylbenzene copolymer
RL: PRP (Properties)
(**latex** particle stability of, in **aqueous** suspensions, effect of surfactant stabilizer-**bacterioside** on)

IT 26628-22-8, Sodium azide 55965-84-9
RL: PRP (Properties)
(polystyrene divinylbenzene **latex** particle stability in **aqueous** suspensions in presence of polymeric stabilizer and)

L31 ANSWER 12 OF 13 HCAPLUS COPYRIGHT ACS on STN
AN 1987:482827 HCAPLUS
DN 107:82827
ED Entered STN: 05 Sep 1987
TI Phase transitions of **water** in brick during cooling: II. Effects of cooling rate, presence of **ice nucleation** substances, and duration of time on phase transition behaviors
AU Nakamura, Masahiko; Takanashi, Kazuhiro; Makino, Takahiro; Okuda, Susumu
CS Kyoto Inst. Technol., Kyoto, 606, Japan
SO American Ceramic Society Bulletin (1987), 66(7), 1116-19
CODEN: ACSBA7; ISSN: 0002-7812
DT Journal
LA English
CC 58-6 (Cement, Concrete, and Related Building Materials)
Section cross-reference(s): 10

AB The freezing **temperature increase** of bulk **water** held in diatomaceous earth brick due to the presence of an **ice nucleation** active (**INA**) substance, such as **INA bacteria** (Erwinia ananas serrano) or AgI, was investigated for bulk **water** or a single drop. The freezing temps. of some bulk **waters** containing **INA** substances or pure bulk **water** , either held in brick or existing as a single droplet, were not substantially affected by cooling rates of 0.07-7°/min. Consecutive DSC of the phase transition of bound **water** for a long period (>900 days) revealed that an exothermic peak at .apprx.42°, corresponding to a quasistable state, temporarily existed during the proceeding to the stable state showing an exothermic peak near -52°.

ST brick **water** freezing point silver iodide

IT Kieselguhr
RL: DEV (Device component use); USES (Uses)
(bricks from, **water** in, f.p. of, silver iodide effect on)

IT Erwinia ananas
(in bricks, bulk **water** f.p. in relation to)

IT Bricks
(kieselguhr, **water** in, f.p. of, silver iodide effect on)

IT 7783-96-2, Silver iodide (AgI)
RL: USES (Uses)
(in bricks, bulk **water** f.p. in relation to)

L43 ANSWER 14 OF 18 HCAPLUS COPYRIGHT ACS on STN
AN 1948:38915 HCAPLUS
DN 42:38915
OREF 42:8261b-i,8262a
ED Entered STN: 22 Apr 2001
TI Investigations of the behavior of some propionic acid **bacteria**

strains in relation to sodium chloride, sodium nitrate, and heating
AU Rollman, Nils Otto; Sjostrom, Gunnar
CS Alnarp Inst., Alnarp, Swed.
SO Svenska Mejeritidningen (1946), 38, 199-201,209-12
CODEN: SVMEAB; ISSN: 0039-6877
DT Journal
LA Unavailable
CC 11C (Biological Chemistry: Microbiology)
AB Different propionic acid **bacteria** strains were obtained from normal cheeses and from cheeses with abnormal early propionic acid fermentation. Five g. of cheese was added with stirring to a 0.1 N Na2CO3 solution to a concentration of 10%. The emulsion was diluted with sterile **water** to the concns. 1/100, 1/1000, 1/10,000, and 1/100,000. From these dilns. inoculations were made on agar substrates (200 ml. yeast autolyzate (van Beynum and Pette, C.A. 28, 6496.5)), 20 g. Witte peptone, 12 g. Na lactate, 15 g. agar, 1 l. **water**; pH 7). The substrate was kept molten at 45° in tubes (used for **indicating** the presence of mold in butter). The narrow part of the tube was closed with a **rubber** stopper. After inoculation and after the agar had solidified a 3-cm. layer of **aqueous** agar was poured over to obtain suitable anaerobic conditions. Cultivation **temperature** was 30°. Usually 10-15 days elapsed before the appearance of colonies visible for the naked eye. In those tubes, however, where the **bacteria** strains came from the cheeses with abnormal early fermentation, the colonies appeared after 4 days; simultaneously so much gas had evolved that the agar gel was cracked in several places. Pasteurization at 80° for 10 min. destroyed this ability to produce gas, whereby the absence of lactic acid **bacteria** was proved. The agar column was transferred to a big sterile Petri dish and divided into 2 mm. slices for counting and for isolation of the strains. The catalase reaction was strong; there seemed to be a relationship between ability to form gas and catalase activity, the catalase action being strongest for the cultures with strong gas production. It was shown that the acids volatile with **water** vapor produced by the **bacteria** were acetic and propionic acids, while butyric acid was absent. After inoculation with 4-day-old cultures into lactate substrate without agar and with a layer of hard sterile paraffin on top, the gas-producing ability was studied at 30°. The paraffin plug was pushed up by the gas produced. After one day the amount of gas was constant for the rapidly fermenting strains, whereas 8-15 days elapsed before this was accomplished by the slowly fermenting strains. This method with one normal strain (I) and one rapidly fermenting strain (II) was used for investigating the effects of NaCl, NaNO3, and heating on growth and gas production. The expts. were performed at pH 7, the optimum pH of the propionic acid **bacteria**, and at pH 5.2, about corresponding to the pH value in normal fresh and hard rennet cheese. Strain I could stand NaCl better and formed more gas at pH 5.2 than at pH 7.0, while the opposite was the case for II. The gas production, which was considerably less with II than with I, started at pH 5.2 after 5 days for both strains, but at pH 7.0 strain II grew more rapidly, with gas production after 1 day against 5-6 days for I. With a NaCl concentration above 3% the fermentation at pH 5.2 of II thus seems to be impeded, but more than 6% is necessary for this at pH 7.0. With NaNO3 concns. of up to 80 g. per l. substrate there was growth with both strains at pH 7.0, strain II growing the more rapidly. At pH 5.2 strain I grew at all NaNO3 concns., whereas strain II did not grow at concns. of more than 10 g. per l. Strain I showed gas formation at pH 7.0 without NaNO3 after 5 days, with 10 g. after 9 days, and with 30-80 g. after 13 days. At pH 5.2, the gas production started after 7 days in all samples with strain I. Strain II showed gas formation at pH 7.0 without NaNO3 after 1 day, with 10 and 20 g. after 2 days; no gas was produced at higher concns. At pH 5.2, strain II did not form any gas with NaNO3 present; without NaNO3 gas was produced after 5 days. Expts. with heating in tubes at 63° and 70° did not show any more pronounced difference in heat resistance for these strains.
IT **Bacteria**
(propionic acid, effect of heating, NaCl and NaNO3 on)
IT Cheese
(propionic **bacteria** from, effect of heat, NaCl and NaNO3 on)
IT 7631-99-4, Sodium nitrate 7647-14-5, Sodium chloride
(effect on propionic acid **bacteria**)
IT 64-19-7, Acetic acid 79-09-4, Propionic acid
(formation of, by **bacteria**)
IT 9001-05-2, Catalase
(in propionic acid **bacteria**)

L45 ANSWER 2 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 2004:453132 HCAPLUS
DN 140:428605
ED Entered STN: 04 Jun 2004
TI Purification of contaminated **water**
IN Skill, Stephen; Robinson, Lee F.
PA Photosynthesis Jersey Ltd., UK
SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2
DT Patent
LA English
IC ICM C02F
CC 61-5 (Water)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004046037	A2	20040603	WO 2003-GB3049	20030715
	WO 2004046037	A3	20040708		
PRAI	GB 2002-16476	A	20020716		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004046037	ICM	C02F

AB An apparatus for treating contaminated **water** is described, The apparatus comprises a **water** permeable matrix of a **transparent** or **translucent** substrate and a bio-film comprising at least one photosynthetic **micro-organism** supported on the substrate. Also described is a method for treating contaminated **water** that uses the apparatus
ST **water** purifn system
IT **Water** purification
(apparatus; system for purification of contaminated **water**)
IT **Water** purification
(biofilm; system for purification of contaminated **water**)
IT **Microorganism**
(photosynthetic; system for purification of contaminated **water**)
IT Plastics, uses
RL: DEV (Device component use); USES (Uses)
(recycled; system for purification of contaminated **water**)
IT Polycarbonates, uses
Polyesters, uses
RL: DEV (Device component use); USES (Uses)
(system for purification of contaminated **water**)
IT **9002-86-2**, Polyvinyl chloride 9002-88-4, Polyethylene
25038-59-9, Polyethylene terephthalate, uses
RL: DEV (Device component use); USES (Uses)
(system for purification of contaminated **water**)

L45 ANSWER 3 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 2003:868330 HCAPLUS
DN 139:351811
ED Entered STN: 06 Nov 2003
TI Zirconium oxide particle-containing hydrophilic coating composition and its preparation and application methods
IN Miwa, Yasuo; Akamatsu, Masahiko; Murakami, Akihiro; Shindo, Kenjiro; Imura, Tatsuya; Suda, Nobuo; Terada, Seiji; Aranishi, Yoshito
PA Kawasaki Heavy Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09D185-00
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 43
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003313499	A2	20031106	JP 2002-120959	20020423
PRAI	JP 2002-120959		20020423		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003313499	ICM	C09D185-00

AB **Transparent** hydrophilic coating with high adhesive strength is composed of (1) zirconium oxide particles with diameter of 0.5-100 nm, which is obtained from zirconium propoxide, zirconium tetramethoxide, zirconium ethoxide, zirconium isopropoxide, and zirconium butoxide, (2) saturated alc. solvent, such as methanol, ethanol, 1-propanol, and etc., ester solvent and aromatic compds., (3) 0.0003-0.3 weight% acidic materials, such as hydrochloric acid and nitric acid, (4) 0.0003-0.3 weight% alkali materials selected from ammonium and amine compds., (5) thickener, such

as cellulose compds. and organic compds. with high viscosity, (6) halide, inorg. salts, or organometallic compds. of Si, Al, Ti, Mn, Fe, Cu, Zn, Y, Nb, Mo, Ag, and Sn, (7) antistatic agent, such as poly(oxyethylene)alkylamine, (8) UV absorbents selected from salicylates and benzophenols, and (9) natural products, such as **bacteria**. The invented coating composition can be coated on metal surfaces or other coating surface, such as acrylic, urethane, epoxy, fluoropolymer coating, by spray, dip, spin, or roller coating methods. Thus, component (A) was zirconium propoxide isopropanol 1.17 weight% solution; and component (B) was composed of isopropanol, hydrochloric acid, and **water**; component (A) and (B) were reacted to receive zirconium oxide-containing hydrophilic coating composition

L45 ANSWER 4 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 2003:863591 HCAPLUS
DN 139:354112
ED Entered STN: 05 Nov 2003
TI Tube with photosynthetic **microorganism** and method for purification of eutrophic lake **waters** or contaminated **water**
IN Inoe, Tetsunori
PA Sangaku Rentai Kiko Kyushu K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C02F003-34
ICS A01K063-04; C02F003-10
CC 61-5 (Water)
Section cross-reference(s): 60
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003311294	A2	20031105	JP 2002-123726	20020425
PRAI JP 2002-123726		20020425		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003311294	ICM	C02F003-34
	ICS	A01K063-04; C02F003-10

AB The tube with various shapes for purification of eutrophic lake **waters** or **water** contaminated by livestock wastewater is attached with photosynthetic **microorganism** on its inner surface. At least part of the inner surface of the tube is made with **transparent** polymer (e.g., polytetrafluoroethylene, polyvinyl chloride, silicon resin) which is able to bond with photosynthetic **microorganism**. When the O-deficient contaminated **water** is flowing through the tubes, the contaminants such as P, N, heavy metals are assimilated and absorbed by the **microorganism** (e.g, purple sulfur **bacteria**).

ST eutrophic lake **water** purifn photosynthetic **microorganism** polymer pollution control; assimilation purple sulfur **bacteria**; polymer polytetrafluoroethylene polyvinyl chloride silicone **rubber**

IT **Water** purification
(apparatus; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)

IT Chromatiaceae
(assimilation; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)

IT **Water** purification
(biol.; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)

IT **Water** pollution
(control; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)

IT Lake **waters**
(eutrophic; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)

IT Polymers, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(for bonding with photosynthetic **microorganism**; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)

IT Photosynthesis, biological

(for **water** purification; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)
IT Wastewater
(livestock; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)
IT **Microorganism**
(photosynthetic; tube with photosynthetic **microorganism** and method for purification of eutrophic or contaminated **water**)
IT Eutrophication
L45 ANSWER 5 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 2002:906061 HCAPLUS
DN 137:371801
ED Entered STN: 29 Nov 2002
TI Device for altering molecular structures in liquids
IN Hubacek, Christian; Hubacek, Hugo
PA Austria
SO PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM C02F001-30
ICS G02B005-00
CC 47-1 (Apparatus and Plant Equipment)
Section cross-reference(s): 10, 17, 61, 63, 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002094720	A1	20021128	WO 2002-AT148	20020516
	AT 200101301	A5	20040215	AT 2001-1301	20010820
	AT 412084	B	20040927		
PRAI	AT 2001-796	A	20010518		
	AT 2001-1301	A	20010820		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002094720	ICM	C02F001-30
	ICS	G02B005-00

AB A device for altering mol. structures in liqs. has a shaped body that is **transparent** to at least a portion of electromagnetic solar radiation and is provided with at least one element on at least one surface for deflecting the electromagnetic radiation. The device can consist of glass, polymers, such as PMMA or polypropylene. If brought into contact with materials it could be used for preservation of food, beverages, and flowers, as therapeutic, **water** purification and it can influence the growth behavior of **microorganisms**.
ST app solar radiation electromagnetic therapy **water** purifn food preservation
IT Electromagnetic wave
Food preservation
Microorganism
Solar radiation
Therapy
Water purification
(device for altering mol. structures in liqs.)
IT Glass, uses
Polymers, uses
RL: DEV (Device component use); USES (Uses)
(device for altering mol. structures in liqs.)
IT 9003-07-0, Polypropylene **9011-14-7**, Pmma
RL: DEV (Device component use); USES (Uses)
(device for altering mol. structures in liqs.)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Brucker, F; WO 0032520 A 2000 HCAPLUS
(2) Matherly, T; US 6193878 B1 2001
(3) Smirnov, I; US 6022479 A 2000
(4) Uzawa, M; US 5965007 A 1999 HCAPLUS

L45 ANSWER 6 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 2002:831899 HCAPLUS

DN 137:343851
ED Entered STN: 01 Nov 2002
TI Electrostatic charge image developing toner and image forming method
IN Yano, Tetsuya; Nomoto, Tsuyoshi; Kozaki, Shinya; Honma, Tsutomu
PA Canon Kabushiki Kaisha, Japan
SO Eur. Pat. Appl., 80 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G03G009-087
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 9, 16, 35, 38
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1253475	A2	20021030	EP 2002-9673	20020429
	EP 1253475	A3	20031126		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003015359	A2	20030117	JP 2001-210021	20010710
	US 2003118931	A1	20030626	US 2002-133670	20020429
PRAI	JP 2001-133728	A	20010427		
	JP 2001-210021	A	20010710		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1253475	ICM	G03G009-087
EP 1253475	ECLA	C08G063/06; C08G063/688B; G03G009/087D4; G03G009/087H6; G03G009/087H5; G03G009/087H3; G03G009/097D; G03G; G03G009/097D3
US 2003118931	ECLA	G03G009/087D4; G03G009/087H3; G03G009/087H5; G03G009/087H6; G03G009/097D; G03G009/097D3; G03G009/097D6

OS MARPAT 137:343851
AB Electrostatic charge image developing toner allows to design the toner characteristics such as chargeability, flowability, stability in time and environmental stability uniform among the toners of different colors. The toner has a small particle size enough for enabling uniform dispersion and being excellent in color saturation and **transparency**. The toner also shows higher contribution to the environmental security. The toner includes a coloring agent of which at least a part of the surface is covered with polyhydroxyalkanoate (PHA). The toner is produced by dispersing the coloring agent in **aqueous** medium, then fixing PHA synthesizing enzyme to the coloring agent dispersed in the **aqueous** medium, then adding 3-hydroxyacyl CoA, and executing a PHA synthesizing reaction to cover at least a part of the surface of the coloring agent with PHA. The toner thus obtained is used for an image forming method.
ST electrog electrostatic toner surface modified coloring agent polyhydroxyalkanoate; biochem synthesis electrog electrostatic toner surface modified coloring agent
IT Escherichia coli
(HB101; method for producing electrostatic charge image developing toner using host **microorganisms** for transformant having ability for producing polyhydroxyalkanoate synthesizing enzyme)
IT Polysiloxanes, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(amino, TSF 4700; electrostatic charge image developing toner comprising surface modified coloring agent)
IT Electrographic toners
(electrostatic charge image developing toner comprising surface modified coloring agent)
IT Polyesters, preparation
RL: BPN (Biosynthetic preparation); MOA (Modifier or additive use); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hydroxycarboxylic acid-based; method for producing electrostatic charge image developing toner using host **microorganisms** for transformant having ability for producing polyhydroxyalkanoate

L45 ANSWER 7 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 2002:615505 HCAPLUS

DN 137:170626
ED Entered STN: 16 Aug 2002
TI Manufacture and use of **opaque**, pigmented, antimicrobial, biaxially oriented, partially crystallized thermoplastic film
IN Murschall, Ursula; Kern, Ulrich; Oberlaender, Klaus; Crasz, Guenther
PA Mitsubishi Polyester Film G.m.b.H., Germany

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002062578	A1	20020815	WO 2002-EP854	20020128
	DE 10105109	A1	20020808	DE 2001-10105109	20010205
	DE 10105110	A1	20021017	DE 2001-10105110	20010205
PRAI	DE 2001-10105109	A	20010205		
	DE 2001-10105110	A	20010205		

AB The 1-500-μm-thick title film of ≥1 layer (B, A-B-A, A-B-C), whereby the base layer B consists of a thermoplastic polymer, preferably poly(ethylene terephthalate) (PET), contains 0.005-10.0 weight%, Triclosan optionally mixed with further antimicrobial agents, 0.2-40.0 weight% of ≥1 coloring pigment, and/or 0.5-30.0 weight% fireproofing agent, and/or 0.01-5.0 weight% UV stabilizers, and 0.01-1.0 weight% hydrolysis stabilizer, all added as masterbatches (MB) before (co)extrusion and may be coated at ≥1 side (by reverse gravure-roll coating), equipped with a sealable layer or corona-treated. The film may also contain material recycled from fabrication without causing any neg. influence on its properties. The title films are suitable for interior or exterior uses, as laminate material, for medical applications, as packaging material, and in disposal and environmental protection. Thus, a 50-μm-thin A-B-A film one-side reverse gravure-roll coated was prepared by coextrusion, followed by a stepwise biaxially orientation, whereby the base layer (44 μm) was made from (a) 41 weight% PET, (b) 7 weight% MB from 50% PET and 50% TiO2, (c) 2.0 weight% MB from 90% PET and 10.0% triclosan, and (d) 50 weight% material recycled from production, and the A layers from (a) 90 weight% PET, (b) 3 weight% MB from 90% PET and 10.0% triclosan, and (c)7 weight% MB from PET containing 10,000 ppm Sylobloc 44H. There was no remarkable influence on the usual mech. characteristics observed in comparison to a conventional film which might be caused by the antimicrobial agent(s). The film was not overgrown from **microorganisms** and their growth around the film was inhibited.

ST antimicrobial UV stabilized fireproof laminated thermoplastic film; polyethylene terephthalate antimicrobial laminated film triclosan deriv; packaging film medicine disposal environmental use antimicrobial; PET film coextruded biaxially oriented sealable antimicrobial property manuf

IT Polyesters, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(base layer; in **opaque**, pigmented, partially crystalline, thermoplastic films with antimicrobial properties)

IT Pigments, nonbiological
(black, inorg.; in **opaque**, pigmented, partially crystalline, thermoplastic films with antimicrobial properties)

IT Pigments, nonbiological
(colored organic or inorg.; in **opaque**, pigmented, partially crystalline, thermoplastic films with antimicrobial properties)

IT Packaging materials
(films; **opaque**, pigmented, partially crystalline, thermoplastic films with antimicrobial properties)

IT Antimicrobial agents
Coloring materials
Fireproofing agents
Recycling of plastics and **rubbers**
UV stabilizers
(in **opaque**, pigmented, partially crystalline, thermoplastic films with antimicrobial properties)

IT Polyesters, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(laminate; **opaque**, pigmented, partially crystalline, thermoplastic films with antimicrobial properties)

IT Organic compounds, uses
RL: MOA (Modifier or additive use); USES (Uses)
(nickel containing, UV-stabilizer; in **opaque**, pigmented, partially crystalline, thermoplastic films with antimicrobial properties)

IT Laminated plastic films

L45 ANSWER 8 OF 24 HCAPLUS COPYRIGHT ACS on STN

AN 2001:453228 HCAPLUS
DN 135:43088
ED Entered STN: 22 Jun 2001
TI **Microorganism**-culturing piece and its use in **microorganism**-culturing medium
IN Ushiyama, Masashi; Aoyama, Shigeyuki
PA Chisso Corporation, Japan
SO PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C12M001-34
ICS C12M001-20; C12N001-00
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 10
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001044437	A1	20010621	WO 2000-JP8923	20001215
	W: JP, US				
	US 2002192742	A1	20021219	US 2002-168250	20020617
PRAI	JP 1999-359484	A	19991217		
	JP 1999-359485	A	19991217		
	WO 2000-JP8923	W	20001215		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001044437	ICM	C12M001-34
	ICS	C12M001-20; C12N001-00

AB A **microorganism**-culturing piece is designed so that it comprises a porous matrix layer (e.g., nylon melt blown nonwoven fabrics) having a basis weight of 40-100g/m2 and an air permeability of 7-24 cm/s, and at least one layer of a **water**-soluble polymer (e.g., polyvinylalc.) superposed on the matrix layer. A sheet-form **microorganism** -culturing piece is also designed so that the **microorganism** -culturing piece is enclosed between a **transparent** film (e.g., polyolefin film with peelability) and an adhesive sheet (e.g., polyester film coated with acryl-type or **rubber**-type adhesive). A **microorganism**-culturing medium and a sheet-form **microorganism**-culturing medium using the resp. **microorganism**-culturing piece are provided for culturing and detecting **microorganism** in a food sample or in an environment.

ST **microorganism** detection film culture medium adhesive

IT Adhesive films
Adhesives
Color formers
Cotton fibers
Culture media
Environmental analysis
Films
Food analysis
Microorganism
Mixtures
Nonwoven fabrics
Nutrients
Porous materials
Transparent films
(**Microorganism**-culturing piece and use in **microorganism**-culturing medium)

IT Salts, biological studies
RL: BUU (Biological use, unclassified); DEV (Device component use); BIOL (Biological study); USES (Uses)
(**Microorganism**-culturing piece and use in **microorganism**-culturing medium)

IT Acrylic polymers, uses
Polyamide fibers, uses
Polyesters, uses
Polyolefins
Rayon, uses
Rubber, uses
RL: DEV (Device component use); USES (Uses)
(**Microorganism**-culturing piece and use in

AN 2001:352569 HCAPLUS
DN 136:119361
ED Entered STN: 17 May 2001
TI The biofouling resistant properties of six **transparent** polymers with and without pre-treatment by two antimicrobial solutions
AU Kerr, A.; Smith, M. J.; Cowling, M. J.; Hodgkiess, T.
CS Glasgow Marine Technology Centre, University of Glasgow, Glasgow, G12 8QQ, UK
SO Materials & Design (2001), 22(5), 383-392
CODEN: MADSD2; ISSN: 0264-1275
PB Elsevier Science Ltd.
DT Journal
LA English
CC 38-3 (Plastics Fabrication and Uses)
AB Six bulk polymers potentially suitable for use as optical ports of underwater instruments were exposed to a solution of marine **bacteria** after soaking in distilled **water** or surfactant solns. The effect of the surfactant solns. was to reduce fouling build-up on four of the six polymers. The presence of the surfactant altered the surface energy of the polymers. The surfactant reduced the importance of phys. characteristics, such as surface roughness, on fouling build-up. It was found that untreated poly(ethylene terephthalate) outperformed poly(Me methacrylate), over short time periods. This result was repeated when these polymers were tested on optical underwater instruments exposed to a marine environment.
ST **transparent** polymer biofouling resistance antimicrobial surfactant pretreatment
IT Antifouling agents
(antibiofouling; biofouling resistance of **transparent** polymers with and without antimicrobial pretreatment)
IT Surfactants
(antifouling agents; biofouling resistance of **transparent** polymers with and without antimicrobial pretreatment)
IT Antimicrobial agents
(biofouling resistance of **transparent** polymers with and without antimicrobial pretreatment)
IT Polycarbonates, uses
Polyesters, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(biofouling resistance of **transparent** polymers with and without antimicrobial pretreatment)
IT Fouling
(biofouling; biofouling resistance of **transparent** polymers with and without antimicrobial pretreatment)
IT Quaternary ammonium compounds, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dicoco alkyldimethyl, chlorides; biofouling resistance of **transparent** polymers with and without antimicrobial pretreatment)
IT Polysulfones, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyether-; biofouling resistance of **transparent** polymers with and without antimicrobial pretreatment)
IT Polyethers, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polysulfone-; biofouling resistance of **transparent** polymers with and without antimicrobial pretreatment)
IT **9003-53-6**, Polystyrene **9011-14-7**, PMMA 9016-80-2, Polymethylpentene 25038-59-9, PET polymer, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(biofouling resistance of **transparent** polymers with and

L45 ANSWER 10 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1999:621083 HCAPLUS
DN 131:302814
ED Entered STN: 29 Sep 1999
TI Selection of a support medium for a fixed-film green sulfur

bacteria reactor
AU Henshaw, Paul; Medlar, Dan; Mcewen, Jeff
CS Civil and Environmental Engineering, University of Windsor, Windsor, ON, N9B 3P4, Can.
SO Water Research (1999), 33(14), 3107-3110
CODEN: WATRAG; ISSN: 0043-1354
PB Elsevier Science Ltd.
DT Journal
LA English
CC 60-1 (Waste Treatment and Disposal)
AB The ability of green sulfur **bacteria** (Chlorobium limicola) to grow on 6 different **transparent** plastic tube materials (PTMs) was tested to determine which material would be best as a support medium in a fixed-film bioreactor. The materials were: Bev-a-Line (polyethylene liner with Et vinyl acetate shell), FEP (fluorinated ethylene propylene), Kynar (polyvinylidene fluoride), PFA (perfluoroalkoxy), polypropylene and Tygon (vinyl chloride-vinylidene chloride co-polymer). The materials were soaked in **water**, autoclaved and added to sterile liquid growth medium, 3-7 days after inoculating, the **bacteria** concns. in the liquid and on the PTM were measured. There was no distinction in total growth between those tubes with and those without PTMs. In comparing **bacteria** growth on the PTMs, the fraction of the total growth that was on the tubing was significantly higher for Tygon (1.7%) and Bev-a-line (0.6%) tubing than the other PTMs. In terms of bacteriochlorophyll (bchl)/surface area, again Tygon and Bev-a-line tubing were superior to the other PTMs tested with 220 and 81 mg bchl/m2 tubing surface area, resp.
ST support medium biofilm green sulfur **bacteria**; Chlorobium biofilm support media
IT Wastewater treatment
(biofilm; support medium for fixed-film green sulfur **bacteria** reactor)
IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(fluoroalkoxy group-containing; support medium for fixed-film green sulfur **bacteria** reactor)
IT Chlorobium limicola
(support medium for fixed-film green sulfur **bacteria** reactor)
IT Bacteriochlorophylls
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(support medium for fixed-film green sulfur **bacteria** reactor)
IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(support medium for fixed-film green sulfur **bacteria** reactor)
IT **9011-06-7**
RL: DEV (Device component use); USES (Uses)
(Tygon; support medium for fixed-film green sulfur **bacteria** reactor)
IT 9003-07-0, Polypropylene 9010-79-1D, Ethylene-propylene copolymer, fluorinated 24937-79-9, Polyvinylidene fluoride 247049-56-5, Bev-a-Line
RL: DEV (Device component use); USES (Uses)
(support medium for fixed-film green sulfur **bacteria** reactor)
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Cadena, F; JWPCF 1988, V60, P1259 HCAPLUS
(2) Cork, D; Biotechnol Bioeng 1986, V16, P149 HCAPLUS
(3) Cork, D; PhD Dissertation University of Arizona 1978, P127
(4) Devore, J; Probability and statistics for engineering and the sciences 1982
(5) Henshaw, P; Indian J Eng Mater Sci 1998, V5, P202 HCAPLUS
(6) Henshaw, P; MSc Thesis University of Windsor 1990
(7) Henshaw, P; PhD Dissertation University of Windsor 1995
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(10) Kobayashi, H; Water Res 1983, V17, P579 HCAPLUS
(11) Losier, L; Environmental status report of the Canadian petroleum refinery industry 1990
(12) Madigan, M; Biology of Anaerobic Microorganisms 1988
L45 ANSWER 11 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1999:404744 HCAPLUS
DN 131:35662
ED Entered STN: 01 Jul 1999
TI Solid cosmetic compositions containing gellan gum

IN Roulier, Veronique; Quemin, Eric
PA L'oreal, Fr.
SO Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DT Patent
LA French
IC ICM A61K007-48
CC 62-4 (Essential Oils and Cosmetics)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 923930	A1	19990623	EP 1998-402850	19981117
EP 923930	B1	20001220		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
FR 2772599	A1	19990625	FR 1997-16173	19971219
FR 2772599	B1	20000128		
ES 2154489	T3	20010401	ES 1998-402850	19981117
BR 9805635	A	20000613	BR 1998-5635	19981208
JP 11246352	A2	19990914	JP 1998-357913	19981216
JP 3016772	B2	20000306		
CA 2255148	AA	19990619	CA 1998-2255148	19981217
CA 2255148	C	20040330		
CN 1231166	A	19991013	CN 1998-127122	19981218
CN 1117556	B	20030813		
US 6180122	B1	20010130	US 1998-215296	19981218
PRAI FR 1997-16173	A	19971219		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 923930	ICM	A61K007-48
EP 923930	ECLA	A61K007/02; A61K007/48N8
FR 2772599	ECLA	A61K007/02; A61K007/48N
US 6180122	ECLA	A61K007/02; A61K007/48N8

AB A solid cosmetic compn with an **aqueous** phase of ≤20% of the total uses a hydrophilic gelling agent. The gelling agent is made up of 2 or more uncharged hydrocolloids with ≥2% as gellan gum. The solid composition doses not have oil, is **transparent** and **translucent**. A hydrating stick contained gellan gum 2, xanthan gum 1, and **water** q.s. 100%.

ST solid cosmetic gellan gum; stick cosmetic xanthan gum gellan gum
IT Skin, disease
(depigmentation, agents for; solid cosmetic compns. containing gellan gum)
IT Algae
Cereal (grain)
Fruit
(extract; solid cosmetic compns. containing gellan gum)
IT Cosmetics
(eye liners; solid cosmetic compns. containing gellan gum)
IT Cosmetics
(foundations; solid cosmetic compns. containing gellan gum)
IT Seborrhea
(inhibitors; solid cosmetic compns. containing gellan gum)
IT Radicals, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(inhibitors; solid cosmetic compns. containing gellan gum)
IT Cosmetics
(lipsticks; solid cosmetic compns. containing gellan gum)
IT Cosmetics
(moisturizers; solid cosmetic compns. containing gellan gum)
IT **Microorganism**
Plant (Embryophyta)
(secretions; solid cosmetic compns. containing gellan gum)
IT Cosmetics

L45 ANSWER 12 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1995:444032 HCAPLUS
DN 122:189262
ED Entered STN: 28 Mar 1995
TI **Water**-dispersible thickeners comprising hydrophilic polymers

coated with particulate fatty acids or the salts thereof
IN Patel, Bharatkuma Balubhail
PA Phillips Petroleum Co., USA
SO Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C08L101-02
ICS C08L001-26; C08L005-00; C09K007-02
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 43, 44, 51
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 608898	A1	19940803	EP 1994-101291	19940128
	EP 608898	B1	19980325		
	R: DE, DK, FR, GB, IT, NL, SE				
	US 5391359	A	19950221	US 1993-11053	19930129
	CA 2111406	AA	19940730	CA 1993-2111406	19931214
	CA 2111406	C	19971007		
	IN 180972	A	19980411	IN 1994-CA2	19940103
	AU 9453103	A1	19940804	AU 1994-53103	19940111
	AU 654243	B2	19941027		
	CN 1094418	A	19941102	CN 1994-101149	19940127
	CN 1058508	B	20001115		
	FI 9400433	A	19940730	FI 1994-433	19940128
	NO 9400317	A	19940801	NO 1994-317	19940128
	JP 07048475	A2	19950221	JP 1994-8019	19940128
	JP 3186399	B2	20010711		
	RU 2134702	C1	19990820	RU 1994-2481	19940128
	JP 2001192501	A2	20010717	JP 2000-383297	19940128
	US 5637635	A	19970610	US 1994-336609	19941109
PRAI	US 1993-11053	A	19930129		
	JP 1994-8019	A3	19940128		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 608898	ICM	C08L101-02
	ICS	C08L001-26; C08L005-00; C09K007-02
EP 608898	ECLA	C08J003/05+L101/02; C09K007/02A; C09K007/02A2; C09K007/02B4D; C09K007/02B4F2
US 5391359	ECLA	C08J003/05+L101/02; C09K007/02A; C09K007/02B4D; C09K007/02B4F2

AB A **water**-dispersible particulate polymeric composition having improved **water** dispersibility comprises a **water**-soluble particulate polymer selected from cellulose ethers, gums, starches, synthetic **water**-soluble polymers and biopolysaccharides, and a finely divided particulate dispersant comprising ≥1 **water**-insol. or sparingly soluble fatty acid or fatty acid salt. A 2:98 blend of Al stearate (I) and CM-cellulose was mixed (0.64 g) with 280 mL **water** resulting in a viscosity of 30 cP after 30 min, vs. 10, without I.

ST polysaccharide **water** dispersible thickener; cellulose ether **water** dispersible thickener; starch **water** dispersible thickener; gum **water** dispersible thickener
IT Beijerinckia indica
Hansenula holstii
Klebsiella pneumonia pneumoniae
Xanthomonas campestris
Xanthomonas campestris hederae
Xanthomonas campestris phaseoli
Xanthomonas campestris **translucens**
(**microorganisms** for production of polysaccharides)
IT Drilling fluids and muds
Gums and Mucilages
Thickening agents
(**water**-dispersible thickeners comprising hydrophilic polymers

L45 ANSWER 13 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1993:577119 HCAPLUS
DN 119:177119
ED Entered STN: 30 Oct 1993
TI An apparatus for **indicating** the presence of carbon dioxide, and

a method of measuring and **indicating** bacterial activity within a container or bag
IN Holte, Bo
PA Den.
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N031-22
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 17, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9315402	A1	19930805	WO 1993-DK40	19930204
	AU 9334927	A1	19930901	AU 1993-34927	19930204
PRAI	DK 1992-134		19920204		
	WO 1993-DK40		19930204		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9315402	ICM	G01N031-22

AB The biol. activity within a container or bag containing a foodstuff or a human thrombocyte concentrate is monitored by means of an apparatus for **indicating** the partial pressure of carbon dioxide. The apparatus comprises a first foil of a light-**transparent** material substantially impermeable to gas and **water**, a second foil constituting a carbon dioxide-permeable membrane, and an **indicator** system contained within a sponge which is enclosed within a chamber defined between the 1st and 2nd foils, resp. As carbon dioxide permeates into the chamber, the **indicator** system generates a visible **indication** in response to exposure to carbon dioxide; the **indication** is visible through the 1st foil. Diagrams of the apparatus are included. A prototype apparatus using Bromethymol Blue **indicator** was tested in a blood bank and also used for transcutaneously measuring the partial pressure of carbon dioxide of a test person; the prototype responded correctly when exposed to carbon dioxide.
ST carbon dioxide detection app **bacteria** container; bag
bacteria carbon dioxide detection app; foodstuff container carbon dioxide detection app; thrombocyte bag carbon dioxide detection app; **indicator** app carbon dioxide
IT **Bacteria**
(activity of, inside material-containing or sample-containing container or bag, **indicator** apparatus for carbon dioxide detection for)
IT **Indicators**
(apparatus containing, for carbon dioxide detection in container or bag of foodstuff or thrombocytes or other biol. material, bacteriol. activity detection in relation to)
IT Food analysis
(bacteriol. activity detection in, in bag of food, **indicator** apparatus for carbon dioxide detection for)
IT Bags
Containers
(bacteriol. activity inside material-containing or sample-containing, **indicator** apparatus for carbon dioxide detection for)
IT Blood platelet
(bag of, bacteriol. activity detection in, **indicator** apparatus for carbon dioxide detection for)
IT Blood preservation
(carbon dioxide-measuring apparatus for storage containers in, bacteriol. activity detection in relation to)
IT Biological materials
(container or bag of, bacteriol. activity detection in, **indicator** apparatus for carbon dioxide detection for)
IT Polyamides, uses
RL: ANST (Analytical study)
(**indicator** apparatus containing layer of, for carbon dioxide detection in container or bag of foodstuff or thrombocytes or other biol.

L45 ANSWER 14 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1991:431498 HCAPLUS
DN 115:31498
ED Entered STN: 27 Jul 1991
TI The treatment of **aqueous** gum arabic solutions with ultraviolet

radiation
AU Deeble, D. J.; Randall, R. C.; Williams, P. A.; Phillips, G. O.; Akhlaq, M. S.; Puramshetty, J. P. R.; Bothe, E.; Steffen, H.; Von Sonntag, C.
CS North East Wales Inst., Deeside/Clwyd, CH5 4BR, UK
SO Food Hydrocolloids (1990), 4(4), 313-21
CODEN: FOHYES; ISSN: 0268-005X
DT Journal
LA English
CC 44-7 (Industrial Carbohydrates)
Section cross-reference(s): 17
AB **Aqueous** solns. of gum arabic were photolyzed with UV light from a low-pressure Hg lamp (maximum emission at 254 nm). The survival of the **bacteria** present was monitored as a function of fluence. A fluence of .apprx.450 J/m2 reduced the bacterial concentration in a 200 g/dm3 gum arabic solution which had a 254 nm absorbance of 0.8 by 90%. The size of the fluence required for 90% bacterial reduction was much large than that needed for **transparent** (at 254 nm) solns., where a fluence of 250 J/m2 typically reduced the bacterial load by 4 orders of magnitude. Low-angle laser light-scattering measurements **indicated** that photolytic degradation of the gum arabic occurred although with an extremely low efficiency, a fluence of 8 + 105 J/m2 being required to produce an average of one degradative chain break per mol. Gel permeation chromatog. confirmed the low sensitivity of gum arabic to UV-induced degradation, there being no significant increase in the fraction of low-mol.-weight material after an essentially sterilizing fluence of 3.9 + 103 J/m2. On photolysis, the absorbance (220-350 nm) of gum arabic solns. increased; for a given fluence the increase was larger when oxygen was present. The emulsifying ability of photolyzed gum arabic was tested using orange oil; no difference was detectable between photolyzed (3.9 + 103 J/m2) and untreated controls.
ST gum arabic UV sterilization; photosterilization gum arabic
IT Emulsifying agents
(gum arabic, UV sterilization of)
IT Oils, essential
RL: USES (Uses)
(orange, gum arabic emulsifiers for, UV sterilization of)
IT Ultraviolet radiation, biological effects
(sterilization by, of gum arabic)
IT Sterilization and Disinfection
(photochem., of gum arabic, by UV light)
IT **9000-01-5**, Gum arabic
RL: PROC (Process)
(sterilization of, by UV light)

L45 ANSWER 15 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1983:618637 HCAPLUS
DN 99:218637
ED Entered STN: 12 May 1984
TI Hydrophilic **elastomeric** pressure-sensitive adhesive
IN Sieverding, David L.
PA Valleylab Inc., USA
SO Brit. UK Pat. Appl., 27 pp.
CODEN: BAXXDU
DT Patent
LA English
IC C09J003-14; C08J003-24
CC 63-7 (Pharmaceuticals)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2115431	A1	19830907	GB 1983-4834	19830222
	GB 2115431	B2	19860625		
	CA 1218954	A1	19870310	CA 1983-419494	19830114
	AU 8310583	A1	19830929	AU 1983-10583	19830119
	AU 536939	B2	19840531		
	DE 3305473	A1	19840202	DE 1983-3305473	19830217
	DE 3305473	C2	19860710		
	FR 2522006	A1	19830826	FR 1983-3021	19830224
	FR 2522006	B1	19851115		
	JP 58162681	A2	19830927	JP 1983-30662	19830225
	JP 63065235	B4	19881215		
	US 4699146	A	19871013	US 1985-775187	19850912
	US 4750482	A	19880614	US 1985-782651	19851001
	JP 02211145	A2	19900822	JP 1989-322470	19891212

JP 04078310 B4 19921210
PRAI US 1982-352268 19820225
US 1983-528679 19830901
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
GB 2115431	IC	C09J003-14IC C08J003-24

AB A **water**-insol. hydrophilic **elastomeric** pressure-sensitive adhesive comprises an irradiation crosslinked synthetic organic polymer with a 3-dimensional matrix and an adhesive plasticizer. The adhesive is **transparent**, ultraconformable, strong, and a **rubber**-like solid that will absorb moisture that cannot be squeezed out and can transmit O, moisture, drugs, or salts and serves as a barrier to **bacteria**. The adhesive is used as a coating on a supporting web-like substrate or as a self-supporting layer. It also may be used in bandages or ostomy devices. An adhesive was prepared containing poly(vinylpyrrolidone) [9003-39-8] 20, polyethylene glycol 300 [25322-68-3] 25, Mg(OH)2 7, methylparaben 0.037, propylparaben 0.012, FD+C Blue Number 2 0.0012% and **H2O** balance. The adhesive is electroconductive as used for attaching an elec. conductive electrode to tissue.
ST surgical adhesive polymer; plasticizer alc surgical polymer
IT Plasticizers
(polyhydric alcs., for **elastomeric** pressure-sensitive surgical adhesives)
IT Surgical dressings and goods
(adhesives, **elastomeric** pressure-sensitive polymer-polyhydric alc. plasticizer compns. for)
IT Alcohols, biological studies
RL: MOA (Modifier or additive use); USES (Uses)
(polyhydric, plasticizers, for **elastomer** pressure-sensitive surgical adhesives containing polymers)
IT 9002-89-5 9003-01-4 9003-39-8 9011-16-9
RL: BIOL (Biological study)
(**elastomeric** pressure-sensitive surgical adhesive containing polyhydric plasticizers and)
IT 50-70-4, biological studies 25322-68-3
RL: BIOL (Biological study)
(**elastomeric** pressure-sensitive surgical adhesives containing polymers and)
IT 56-81-5, biological studies 57-55-6, biological studies 77-85-0
107-21-1, biological studies 107-88-0 110-63-4, biological studies
115-77-5, biological studies 504-63-2 9003-11-6 25322-69-4

L45 ANSWER 16 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1983:552073 HCAPLUS
DN 99:152073
ED Entered STN: 12 May 1984
TI Plastic films for detecting antibiotics in fluids
IN Wielinger, Hans; Wieczorek, Lothar; Bleisteiner, Manfred
PA Boehringer Mannheim G.m.b.H. , Fed. Rep. Ger.
SO Eur. Pat. Appl., 27 pp.
CODEN: EPXXDW
DT Patent
LA German
IC C12Q001-18
CC 1-1 (Pharmacology)
Section cross-reference(s): 17, 64
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 75215	A1	19830330	EP 1982-108345	19820910
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
DE 3136695	A1	19830609	DE 1981-3136695	19810916
FI 8203192	A	19830317	FI 1982-3192	19820915
PRAI DE 1981-3136695	A	19810916		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 75215	IC	C12Q001-18

AB The presence of antibiotics may be detected in, e.g., body fluids and milk, by means of **transparent** test vessels having walls or floors coated with a dry film which contains 10-109 **microorganisms** /g film and which is composed of a plastic mixed with a macromol. wetting agent

which is **water**-soluble or capable of swelling in the presence of **water**. Thus, 46 g of an **aqueous** dispersion of vinylacetate-vinylpropionate copolymer [26715-83-3], 4.2 g of an **aqueous** solution of polyethylene glycol [25322-68-3] in citrate buffer (pH 6.5), 16 g of an **aqueous** solution of polyvinylpyrrolidone [9003-39-8] in citrate buffer (pH 6.5), 0.4 g glycerol, and 200 mL **H2O** are placed in a vessel and mixed into a homogeneous mass into which are worked 106 spores of Bacillus subtilis/g preparation With a pipet, 0.5 mL of the preparation is transferred to a vessel and allowed to dry. If a nutrient solution containing 0.02% triphenyltetrazolium chloride [298-96-4] is placed in the vessel and incubated under appropriate conditions, growing colonies of **bacteria will show up as red spots**. If, however, antibiotics are present in a sample liquid in the medium, such growth will be reduced or absent.

ST antibiotic detection body fluid milk; plastic film **bacteria** antibiotic detection; color test strip antibiotic detection

IT Body fluid
Milk analysis
Urine analysis
(antibiotics detection in, **microorganism**-containing plastic film and nutrient medium for)

IT Antibiotics
(detection of, in body fluids and milk, **microorganism**-containing plastic film and nutrient medium for)

IT Culture media
(for antibiotics detection in body fluids and milk)

IT Wetting agents
(in **microorganism**-containing plastic films, for antibiotics detection)

IT Plastics, film
RL: BIOL (Biological study)
(**microorganism**-containing, for antibiotics detection)

IT **Microorganism**
(plastic film containing, for antibiotic detection)

IT Bacillus subtilis
(plastic film containing, for antibiotics detection)

IT **Bacteria**
(plastic film containing, for biol. test)

IT 56-75-7 60-54-8 61-33-6, analysis 67-20-9 114-07-8 738-70-5 1403-66-3 1404-26-8 8063-07-8 8064-90-2 23155-02-4 25953-19-9 51940-44-4 68401-81-0
RL: ANT (Analyte); ANST (Analytical study)
(detection of, in body fluids and milk, **microorganism**-containing plastic film and nutrient medium for)

L45 ANSWER 17 OF 24 HCAPLUS COPYRIGHT ACS on STN

AN 1980:454025 HCAPLUS
DN 93:54025
ED Entered STN: 12 May 1984
TI Biosynthetic polymeric compositions
IN Walliczek, Erwin Guenther
PA Australia
SO Brit. UK Pat. Appl., 11 pp.
CODEN: BAXXDU
DT Patent
LA English
IC C08L033-00; C07G007-00; C08L089-00
CC 63-7 (Pharmaceuticals)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2021125	A	19791128	GB 1979-17171	19790517
	GB 2021125	B2	19821013		
	AU 7946775	A1	19791122	AU 1979-46775	19780519
	AU 533596	B2	19831201		
	US 4243656	A	19810106	US 1979-37474	19790509
PRAI	AU 1978-4440		19780519		
	AU 1978-6580		19781030		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
GB 2021125	IC	C08L033-00IC C07G007-00IC C08L089-00

AB Biosynthetic polymer compns. are described which may be applied directly to burns or wounds in liquid form or as a film including a strengthening nylon mesh matrix. E.g., an excellent film

was formed by dissolving gelatin (7.7% weight) in hot **water**, and then adding Primal E358 [37297-31-7] 61.6, glycerol [56-81-5] 7.7, and **water**, to a total 53.8% weight In pigs, biosynthetic polymer films were as effective in promoting epithelialization as Tulle Grass, and also minimized bleeding, remained pliable, were permeable to gases and vapors but not **bacteria**, and were **transparent** so progress was observed without the trauma of dressing removal; the films were easily removed with warm **water**. Pain was considerably lessened in sunburn patients after application of liquid compns. due to evaporative loss of **water** .

ST dressing wound burn polymer compn

IT Gelatins, biological studies
RL: BIOL (Biological study)
(in surgical dressings compns.)

IT Surgical dressings and goods
(polymer film compns. as)

IT Burn
Sunburn and Suntan
(polymer film compns. as dressings for)

IT **9000-01-5**
RL: BIOL (Biological study)
(in surgical dressing compns.)

IT 56-81-5, biological studies 64423-81-0 73298-63-2
RL: BIOL (Biological study)
(in surgical dressings compns.)

L45 ANSWER 18 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1975:74116 HCAPLUS
DN 82:74116
ED Entered STN: 12 May 1984
TI Microporous films
IN Bridgeford, Douglas J.
PA Tee-Pak, Inc.
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC C08FBC
NCL 260002500M
CC 37-3 (Plastics Fabrication and Uses)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3852224	A	19741203	US 1972-289197	19720914
PRAI US 1972-289197		19720914		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3852224	IC	C08FBC
	NCL	260002500M

AB Films containing micellar size, uniform pores were prepared by dispersing a surfactant in a polymer, casting a film, and swelling the film with hot **water** to extract the surfactant to give porous films useful as filters for **bacteria**, polymer **latexes**, or as binders for ion exchange resins. Thus, 500g viscose solution containing 7.7% cellulose and 6.4% NaOH was mixed with 10.2 g Aerosol OT-B [1639-66-3], centrifuged to remove air, and the mixture was cast on a plate and coagulated with H2SO4- Na2SO4 solution to give a hard film. The film was washed with **water** 5 hr at 60°, causing the film to swell and leaching out the surfactant to give an **opaque**, microporous film.

ST viscose microporous film; filter microporous film

IT Surfactants
(leaching of, from plastic films, for microporous films)

IT Viscose
Urethane polymers, preparation
Acrylic polymers
Gelatins, uses and miscellaneous
RL: PREP (Preparation)
(microporous films)

IT Filtering materials
(microporous plastic foam, for **bacteria**)

IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous
RL: USES (Uses)
(polyethylene **latex** containing, for microporous films)

IT 151-21-3P, reactions 1639-66-3P 9002-93-1P
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(leaching of, from plastic films, for microporous films)
IT 9003-20-7 32131-17-2
RL: USES (Uses)
(microporous films)
IT 9002-88-4
RL: USES (Uses)
(paraffin wax-containing **latex**, for microporous films)

L45 ANSWER 19 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1973:47503 HCAPLUS
DN 78:47503
ED Entered STN: 12 May 1984
TI Polystyrene spherules in coastal **waters**
AU Carpenter, Edward J.; Anderson, Susan J.; Harvey, George R.; Miklas, Helen P.; Peck, Bradford B.
CS Woods Hole Oceanogr. Inst., Woods Hole, MA, USA
SO Science (Washington, DC, United States) (1972), 178(4062), 749-50
CODEN: SCIEAS; ISSN: 0036-8075
DT Journal
LA English
CC 60-2 (Sewage and Wastes)
Section cross-reference(s): 36, 38
AB Polystyrene spherules averaging 0.5 mm in diameter (range 0.1 to 2 mm) are abundant in the coastal **waters** of southern New England. Two types are present,. a crystalline (clear) form a diene **rubber**. The spherules contain **bacteria** on their surfaces and contain polychlorinated biphenyls, apparently absorbed from ambient sea **water**, in a concentration of 5 ppm. White, **opaque** spherules are selectively consumed by 8 species of fish of the 14 species examined and a chaetognath.
ST polystyrene coastal **water**; chlorinated biphenyl coastal **water**
IT **Rubber**, synthetic
(diene, in polystyrene spherules in coastal **waters**)
IT **Bacteria**
(on polystyrene spherules in coastal **waters**)
IT **Waters**, ocean
(polystyrene spherules in fish and marine worms of coastal)
IT Chaetognath
Fish
(polystyrene spherules in, of coastal **water**)
IT 92-52-4D, 1,1'-Biphenyl, chlorinated derivs., occurrence
RL: OCCU (Occurrence)
(on polystyrene spherules, in fish and marine worms of coastal **waters**)
IT **9003-53-6**
RL: PROC (Process)
(spherules, in fish and marine worms of coastal **waters**)

L45 ANSWER 24 OF 24 HCAPLUS COPYRIGHT ACS on STN
AN 1907:7932 HCAPLUS
DN 1:7932
OREF 1:1895a-g
ED Entered STN: 16 Dec 2001
TI **True and False Emulsions**
AU Koehler, Ap.
SO **Schweiz. Wochschr. (1907), 45, 284**
DT Journal
LA Unavailable
CC 17 (Pharmaceutical Chemistry)
AB A true emulsion is one with properties corresponding approximately with those of milk or the **latex** of plants. The most important characteristic is the formation, on dilution and standing, of a cream, the oil globules of which do not coalesce and are readily diffusible again in **water**. The supernatant creamy layer may be removed and dried in the air to a yellow or brownish salve-like mass. The oil of a true emulsion cannot be completely extracted with ether. Typical natural emulsions contain no gelatinous substances to give the illusory appearance of finely divided emulsions rich in oil to crude imperfect mixtures, but owe their stability to the minuteness of the oil globules and their investiture with a coating of albuminous material. The color of an emulsion is partly due to the differing refractive indices of its components and is

of limited value as a criterion of quality. From two substances of about the same refractive index, good finely divided emulsions may be produced which are colored and almost **transparent** . To a certain extent oil-**water** emulsions may be judged by their color, those which are thin and poor in oil being lighter, while the cream of a concentrated, finely divided emulsion, even of light colored ingredients, will possess more or less color. All emulsions darken with time, and a creamy color should be considered normal. False emulsions on dilution and standing break down by coalescence of the oil globules. Very fine subdivision of the oil is important for absorption and nutrition, but in many of the commercial cod-liver oil emulsions the globules are much larger than those in milk and are maintained in suspension by mucilaginous admixtures. Sometimes the light and cheap seal oil is used to produce a white emulsion, though by proper machinery a white product may be made from cod-liver oil, even though the latter possesses some color. As to the preservation of emulsions, glycerol prevents decomposition of the **aqueous** portion, and ethereal oil that of the fat. Benzaldehyde is especially useful for the latter purpose, since it protects the fat by being itself easier oxidized, the product of the action, benzoic acid having an inhibitive effect upon the fat-splitting **bacteria**. The author has been very successful in the use of 0.24% benzaldehyde for this purpose.

IT Emulsions
(true and false)

L56 ANSWER 2 OF 5 HCAPLUS COPYRIGHT ACS on STN
AN 2004:257445 HCAPLUS
DN 141:6475
ED Entered STN: 29 Mar 2004
TI **Freeze-thaw** regime effects on carbon and nitrogen dynamics in sub-arctic heath tundra mesocosms
AU Grogan, Paul; Michelsen, Anders; Ambus, Per; Jonasson, Sven
CS Department of Biology, Queen's University, Kingston, ON, K7L 3N6, Can.
SO Soil Biology & Biochemistry (2004), 36(4), 641-654
CODEN: SBIOAH; ISSN: 0038-0717
PB Elsevier Science B.V.
DT Journal
LA English
CC 19-4 (Fertilizers, Soils, and Plant Nutrition)
AB Freeze-**thaw** fluctuations in soil **temperature** may be **critical** events in the annual pattern of nutrient mobilisation that supplies plant growth requirements in some temperate, and most high latitude and high altitude ecosystems. We investigated the effects of two differing freeze-**thaw** regimes, each of which is realistic of in situ spatial and temporal variation in field conditions, on C and N dynamics in sub-arctic heath tundra mesocosms. In addition, 15N isotopic label was used to follow the partitioning of a labile N pool between major ecosystem components, both during the freeze-**thaw** treatments phase, and in a subsequent equilibration phase. A single deep freeze treatment phase enhanced dissolved total and labeled N pools in the soil solution at initial **thaw**, and resulted in reduced pool sizes at the end of the equilibration phase. By contrast, a multiple freeze- **thaw** cycling treatment directly enhanced the dissolved labeled N pool, but did not significantly affect dissolved total N. Furthermore, both dissolved labeled N and dissolved total N pools were significantly enhanced in the equilibration period following multiple freeze- **thaw**, the latter due to a marked increase in soil solution NH4+. Microbial biomass C was not significantly affected by either of the freezing treatments upon final **thaw**, but was significantly reduced over the combined treatment and equilibration phases of the multiple freeze-**thaw** regimes. The treatments had no significant effects on total or labeled N within the microbial biomass over either phase. Total mesocosm CO2 efflux rates remained closely correlated with soil **temperature** throughout the experiment in both regimes, suggesting that respiratory flushes associated with treatment-induced microbial cell lysis were negligible. Moderate freeze-**thaw** fluctuations may have minimal influences on microbial biomass pools, but nevertheless can have strong contrasting effects on the amts., forms, and timing of N and organic C supply into the soil solution Ecosystem losses via N2O effluxes were of greatest magnitude immediately upon **thawing** in both treatments, and were of similar total magnitude to inorg. N leachates in through-flow. Herb leaves, total fine roots, and vascular stems accumulated some 15N label in one or both of the freezing treatments by the end of the experiment These results indicating very small N losses relative to the magnitudes of internal transfers, suggest tight ecosystem N cycling both during and after freeze-**thaw** events. Our small and subtle effects on microbial and soluble C and N pools relative to previous studies using more severe regimes, suggests that periods of moderate freeze-**thaw** fluctuations may have only a minor influence on the annual pattern of C and nutrient dynamics in seasonally cold ecosystems.
ST freeze **thaw** carbon nitrogen dynamics subarctic heath tundra mesocosm
IT Soils
(Tundra, arctic; freeze-**thaw** regime effects on carbon and nitrogen dynamics in subarctic heath tundra mesocosms)
IT Embryophyta

Freezing
Leaf
Lichen
Melting
Moss
Root
Soil organic matter
Soil respiration
Stem
(freeze-**thaw** regime effects on carbon and nitrogen dynamics in subarctic heath tundra mesocosms)

IT Soil **microorganism**
(microbial biomass; freeze-**thaw** regime effects on carbon and nitrogen dynamics in subarctic heath tundra mesocosms)

IT 124-38-9, Carbon dioxide, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(efflux; freeze-**thaw** regime effects on carbon and nitrogen dynamics in subarctic heath tundra mesocosms)

IT 10024-97-2, Nitrous oxide, occurrence

L56 ANSWER 3 OF 5 HCAPLUS COPYRIGHT ACS on STN

AN 2002:741814 HCAPLUS

DN 138:72633

ED Entered STN: 01 Oct 2002

TI Sources of C and N contributing to the flush in mineralization upon **freeze-thaw** cycles in soils

AU Herrmann, Anke; Witter, Ernst

CS Division of Soil Fertility and Plant Nutrition, Department of Soil Sciences, Swedish University of Agricultural Sciences, Uppsala, S-75007, Swed.

SO Soil Biology & Biochemistry (2002), 34(10), 1495-1505
CODEN: SBIOAH; ISSN: 0038-0717

PB Elsevier Science Ltd.

DT Journal

LA English

CC 19-2 (Fertilizers, Soils, and Plant Nutrition)

AB In mid-latitude climatic regions (35-65°) soils may be subjected to freeze-**thaw** cycles (FTCs) which can occur frequently in late winter and early spring. FTCs often result in flushes in C and N mineralization and could therefore be an important factor controlling C and N mineralization rates. Laboratory expts. were carried out to characterize the source of organic matter that becomes available upon freezing- **thawing**. Soils differing in the quantity and quality of organic matter inputs they had received since 1956 were sampled, preincubated to reduce amts. of labile organic matter, and subsequently exposed to repeated FTCs. Each cycle consisted of 6 h at -2°, 16 h at -5°, 4 h at +2° and 22 h at +5°, a total of 48 h. The contribution of microbial biomass C to the C flush upon FTC was determined by labeling the native microbial biomass with a small amount of 14C-labeled glucose and comparing the specific activity of the C flush upon freezing- **thawing** with that upon chloroform fumigation. **Temperature** corrected amts. of C and N mineralized in soil incubated at constant **temps**. acted as control in the calcn. of the flush. FTCs increased the amts. of C and N mineralized 2-3 fold. The flush was short-lived and highest in the first four FTCs, suggesting that easily decomposable material became available upon freezing-**thawing** and that the size of the freeze-**thaw**-susceptible pool was **limited**. The C flush was linearly related to organic C, water-soluble organic C, microbial biomass C and basal respiration, but only proportional to the latter two. Labeling the native microbial biomass with a small amount of glucose suggested that microbial biomass C contributed .apprx.65% to the C flush upon freezing-**thawing**, while representing only about 5% of microbial biomass C. The authors have no direct evidence for the source of the remaining 35% of the C flush or for the mechanism of its release. In soils subjected to chloroform fumigation prior to being exposed to FTCs, organic matter released by fumigation became a more important source to the flush than the microbial biomass, suggesting that labile organic matter is highly susceptible to FTCs. From the results, effects of FTCs have little consequence for annual C and N budgets, but may need to be taken into account when modeling C and N mineralization during the late winter and early spring period in mid-latitude climatic regions.

ST org matter mineralization soil freezing **thawing**; carbon mineralization soil freezing **thawing**; nitrogen mineralization soil freezing **thawing**; microbe soil carbon mineralization freezing **thawing**

IT Freezing
(-**thawing**; sources of carbon and nitrogen contributing to flush in mineralization in freeze-**thaw** cycles in soils)

IT Decomposition

(biodegrdn.; sources of carbon and nitrogen contributing to flush in mineralization in freeze-**thaw** cycles in soils)

IT Soil **microorganism**
(biomass carbon and nitrogen contribution to flush in mineralization in freeze-**thaw** cycles in soils)

IT Respiration, microbial
(carbon flush in mineralization in freeze-**thaw** cycles in soils in relation to)

IT Manure
(green; carbon sources contributing to flush in mineralization in freeze-**thaw** cycles in soils treated with)

IT Fertilizers
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(nitrogen; carbon sources contributing to flush in mineralization in freeze-**thaw** cycles in soils treated with)

IT Soil organic matter
(sources of carbon and nitrogen contributing to flush in mineralization in freeze-**thaw** cycles in soils)

L56 ANSWER 4 OF 5 HCAPLUS COPYRIGHT ACS on STN
AN 1986:4774 HCAPLUS
DN 104:4774
ED Entered STN: 11 Jan 1986
TI Lipoamide dehydrogenase, citrate synthase, and β-hydroxyacyl-CoA-dehydrogenase of skeletal muscle. IX. Influence of the rate of **thawing** on their activity and subcellular distribution in quick and slowly **frozen** bovine muscle
AU Gottesmann, Peter; Hamm, Reiner
CS Inst. Chem. Phys., Bundesanst. Fleischforsch., Kulmbach, D-8650, Fed. Rep. Ger.
SO **Zeitschrift fuer Lebensmittel-Untersuchung und -Forschung (1985), 181(4),** 293-8
CODEN: ZLUFAR; ISSN: 0044-3026
DT Journal
LA German
CC 17-7 (Food and Feed Chemistry)
AB Samples of bovine muscle (post rigor) were frozen at -30° at 2 different rates (1.27 min/° and 13.10 min/°) and **thawed** at different rates between 1.6 (22°) and 430 min/° (0°). The activities of the mitochondrial enzyme lipoamide dehydrogenase [9001-18-7], citrate synthase [9027-96-7], and β-hydroxyacyl-CoA-dehydrogenase [9028-40-4] were determined in the supernatant of the tissue homogenate in phosphate buffer (total activity) and in the press juice of the intact tissue (activity in the sarcoplasma). The rate of **thawing** did not show a significant influence on total enzyme activities. In most cases, however, slow **thawing** caused a greater release of the enzymes from the mitochondria into the sarcoplasmic fluid than fast **thawing**, this effect being apparently independent of the rate of freezing. The greater damage to mitochondrial membranes upon slow **thawing** cannot be due to a longer exposure of the muscle cell to increased ionic strength in the non-freezable part of the cell **water** at the **critical temperature** around -3° because freezing of muscle samples at -3° and incubating them at -3° for 5 days resulted neither in changes of the total enzyme activities nor in a release of the 3 mitochondrial enzymes. Apparently, the influence of **thawing** rate on the damage to muscle mitochondria is probably not due to ionic effects or to recrystn. phenomena in the ice phase.
ST beef **thawing** mitochondria membrane damage; enzyme activity mitochondria meat **thawing**
IT Mitochondria
(of beef, **thawing** effect on)

IT Freezing
(-**thawing**, beef mitochondrial enzymes response to)

IT Meat
(beef, mitochondrial enzymes of, **thawing** effect on)

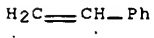
IT 9001-18-7 9027-96-7 9028-40-4
RL: BIOL (Biological study)
(of mitochondria of beef, **thawing** effect on)

L56 ANSWER 5 OF 5 HCAPLUS COPYRIGHT ACS on STN
AN 1975:5190 HCAPLUS
DN 82:5190
ED Entered STN: 12 May 1984
TI Coagulation regularities for synthetic **latexes** during

freezing and **thawing**
AU Neiman, R. E.; Kiseleva, O. G.; Kas'yanova, O. A.; Lapshova, A. V.
CS Voronezh. Gos. Univ., Voronezh, USSR
SO **Kolloidnyi Zhurnal (1974), 36(4), 694-8**
CODEN: KOZHAG; ISSN: 0023-2912
DT Journal
LA Russian
CC 38-12 (Elastomers, Including Natural Rubber)
AB The resistance of butadiene-styrene **rubber** or polystyrene **rubber latexes** to aggregation and coagulation during freezing depends on the following factors: (1) concentration of emulsifier, (2) pH, (3) rate of **temperature** decrease, and (4) **latex** concentration The kinetic curves of **latex** freezing obtained by the light scattering or surface tension methods have inflections when the aggregation **thresholds** andthe coagulation **thresholds** are reached. The time and **temperature** at which these **thresholds** are reached can be used as the indexes of the **latex** stability. **Latexes** of low concns. containing high concns. of emulsifier and pH >7 are more stable than the highly concentrated **latexes** containing low emulsifier concns. and pH <7. Rapid freezing aggregates **latex** faster than the slow freezing.
ST **latex** stability freezing; coagulation aggregation **latex** freezing
IT **Rubber**, butadiene-styrene, properties
(agglomeration of, during freezing)
IT Freezing
(of synthetic **rubber latexes**, agglomeration in)
IT Agglomeration
(of synthetic **rubber latexes**, during freezing)
IT Emulsifying agents
(**rubber latexes** containing, agglomeration during freezing in relation to)
IT **Rubber**, synthetic
(styrene, agglomeration of, during freezing)
IT **9003-53-6**
RL: USES (Uses)
(**rubber**, agglomeration of **latexes** of, during freezing)
IT **9003-53-6**
RL: USES (Uses)
(**rubber**, agglomeration of **latexes** of, during freezing)
RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8



L62 ANSWER 1 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 2004:841791 HCAPLUS
DN 141:346145
ED Entered STN: 15 Oct 2004
TI Preparation and application of indicator compositions for registering the **thawing** process
PA Herrmann, Karsten, Germany; Knittel, Heinz

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 10325714	**B3**	**20041014**	**DE 2003-10325714**	**20030606**
PRAI DE 2003-10325714		**20030606**		

AB The invention concerns indicator compns. for recognizing and showing that temperature rises above a certain value, especially to indicate **thawing** processes in a way that the indicator composition includes an encapsulated substance, e.g. dye in cyclodextran that is mixed with a temperature sensitive substance, e.g. mixture of fatty acids, that has a m.p. at the temperature that has to be controlled; upon exceeding the preset temperature the temperature-sensitive mixture melts which in turn causes the encapsulated substance to change its structure and optical properties. Indicator substances include dyes, metal chelates, and multicomponent reaction systems, e.g.

enzymes with substrates. The indicator compns. can be packed in transparent material. The heat-sensitive **indicators** are used for checking the refrigeration of foods and drugs during storage and transportation. Thus bromphenol blue was encapsulated in β-cyclodextrin; the complex was embedded in a fatty acid mixture with m.p. of 8°C. The fatty acid mixture was composed of (%): caproic acid 0.25; caprylic acid 2.00; capric acid 1.50; lauric acid 11.75; myristic acid 4.50; palmitic acid 12.00; stearic acid 2.00; oleic acid 57.25; linoleic acid 8.00; linolenic acid 0.75. The indicator mixture was colorless before freezing and it showed a light blue color upon freezing.

IT Proteins
IT **Indicators**
IT Thermochromic materials
IT Peptides, uses
IT Colorimetric **indicators**
Transparent materials
IT Carotenes, uses
Catenanes
Chelates
Oligosaccharides, uses
Phycoerythrins
Podands
Polysaccharides, uses
Rotaxanes
Waxes
IT Polycarbonates, uses
IT Zeins
IT Dyes
IT Ligands
IT Fluorescence quenching
IT **Indicators**
IT **81-77-6**, Indanthrene blue RSRN 81-77-6 HCAPLUS
CN 5,9,14,18-Anthrazinetetrone, 6,15-dihydro- (8CI, 9CI) (CA INDEX NAME)
IT **9002-86-2**, Polyvinyl chloride **9003-53-6**, Polystyrene
9011-06-7, Vinylidenechloride-vinyl chloride copolymer
9011-14-7, Poly[methyl(meth)acrylate]
RL: DEV (Device component use); USES (Uses)
(preparation and application of indicator compns. for registering the **thawing** process)
RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)
RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)
RN 9011-06-7 HCAPLUS
CN Ethene, 1,1-dichloro-, polymer with chloroethene (9CI) (CA INDEX NAME)
RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

L62 ANSWER 5 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 1993:467481 HCAPLUS
DN 119:67481
ED Entered STN: 21 Aug 1993
TI Production of antibacterial substances by Pseudomonas glumae
AU Furuya, Naruto; Kushima, Yoshiyuki; Matsuyama, Nobuaki
CS Fac. Agric., Kyushu Univ., Fukuoka, 812, Japan
SO Journal of the Faculty of Agriculture, Kyushu University (1992), 37(2), 149-58
CODEN: JFAKAU; ISSN: 0023-6152
DT Journal
LA English
CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
AB Forty eight strains of Pseudomonas glumae were tested for the antibiosis against 7 species of phytopathogenic **bacteria**, Agrobacterium tumefaciens, Clavibacter michiganensis subsp. michiganensis, Xanthomonas campestris pv. citri, X. campestris pv. oryzae, Erwinia carotovora subsp. carotovora, P. solanacearum, P. syringae pv. syringae. The productivity was tested using the plate chloroform method. All strains of P. glumae produced antibacterial substances against, at least, one indicator. The exudate from the culture plate obtained through freezing and **thawing** showed antibiotics against phytopathogenic **bacteria** used as **indicators**. While, no production of the antibacterial substances was observed in the various liquid media. However in the agar-extract amended liquid medium, antibacterial substances were produced. Water-soluble

nutrients from agar will be necessary for the production of antibacterial substances. The antibacterial substances produced by P. glumae were dialyzable, heat labile and stable to trypsin, pronase, DNase, RNase treatments and UV irradiation
ST antibiotic Pseudomonas
IT Pseudomonas glumae
(antibacterial antibiotic from)
IT Antibiotics
(antibacterial, from Pseudomonas glumae)

L62 ANSWER 6 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 1987:99034 HCAPLUS
DN 106:99034
ED Entered STN: 05 Apr 1987
TI Proteinase-related broad-spectrum inhibitory activity among group-A streptococci
AU Hynes, W. L.; Tagg, J. R.
CS Dep. Microbiol., Univ. Otago, Dunedin, N. Z.
SO Journal of Medical Microbiology (1986), 22(3), 257-64
CODEN: JMMIAV; ISSN: 0022-2615
DT Journal
LA English
CC 10-1 (Microbial Biochemistry)
AB Some 10% of group A streptococci have inhibitory activity against all 9 strains (8 of them streptococci) in a set of **indicators** in an inhibitor-production typing (P-typing) scheme. This activity was associated with the concurrent synthesis of cell-associated proteinase by the streptococcal strain. Inhibitor production was prevented either by incubation of the test strain in conditions inimical to proteinase production, e.g., at low temperature and alkaline pH, or by addition to the medium of substances, such as glucose, iodoacetic acid, lincomycin, Congo red, or trypan blue, that had an anti-proteinase effect. Inhibitory activity was not detectable in liquid cultures, but freeze-**thaw** exts. of cultures of group A streptococcus strain A 1013 on Gibco Columbia Agar Base had some inhibitory activity. The inhibitor was concentrated and partially purified, and the active agent was shown to be a high-mol.-weight cationic protein which was bactericidal for various **bacteria** in the logarithmic growth phase, including the homologous producer strain.
ST antimicrobial protein group A Streptococcus
IT Proteins, biological studies
RL: BIOL (Biological study)
(antimicrobial, of Streptococcus group A)
IT Antibiotics
(of Streptococcus, group A, protein as)
IT Streptococcus
(group A, antimicrobial protein of)
IT 9001-92-7, Proteinase
RL: BIOL (Biological study)
(microbial activity of group A streptococci related to)

L62 ANSWER 7 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 1979:406142 HCAPLUS
DN 91:6142
ED Entered STN: 12 May 1984
TI Nonreversible **freeze-thaw** indicator
IN Hanlon, Robert G.; Craig, Joe A.; Bangs, Leigh B.
PA Dow Chemical Co., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
IC C09K003-00
NCL 252408000
CC 37-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 47
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4148748	A	19790410	US 1977-771049	19770222
PRAI US 1976-737886		19761102		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES

US 4148748 IC C09K003-00
NCL 252408000

AB Nonreversible freeze-**thaw indicators** comprise encapsulated translucent to opaque colloidal dispersions of organic solid particles, e.g. polymeric **latexes**, in liquid media having the property of becoming nonreversibly destabilized upon freezing. After **thawing**, the dispersions coagulated to form nonflowing waxy gels, flocculated, and precipitated leaving a clear liquid and a coagulated solids layer, or they partially flocculated to transform a translucent dispersion to a substantially opaque dispersion.

ST freeze **thaw** indicator polymer dispersion

IT Polymers, uses and miscellaneous
RL: USES (Uses)
(dispersions of, as freeze-**thaw indicators**)

IT **Indicators**
(freeze-**thaw**, polymer dispersions as)

IT Freezing
(**thawing**, **indicators** for, polymer dispersions as)

L62 ANSWER 8 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 1975:576869 HCAPLUS
DN 83:176869
ED Entered STN: 12 May 1984
TI **Temperature** and deteriorative **changes** in postrigor cod muscle stored up to 14 days in the superchill range, -1 to -4.deg.
AU Nowlan, Sandra S.; Dyer, W. J.; Keith, R. A.
CS Fish. Mar. Serv., Dep. Environ., Halifax, NS, Can.
SO Journal of the Fisheries Research Board of Canada (1975), 32(9), 1595-605
CODEN: JFRBAK; ISSN: 0015-296X
DT Journal
LA English
CC 17-3 (Foods)

AB The effect of several storage temps. in the superchill range (-1, -1.6, -2.3, -3, and -4°) on **bacterial** and autolytic spoilage processes in postrigor cod muscle was assessed. Changes in trimethylamine, hypoxanthine, and pH, monitored as spoilage **indicators**, were slight during superchilling at all temps. between -1 and -4° for 3 and 6 days, and 14 days at -4°, indicating inhibition of **bacterial** action. However, at -1.6 and 0° spoilage **thresholds** were reached in 10 and 6 days, resp. Salt-extractable protein remained unchanged, but mild lipid hydrolysis occurred at all temps. In samples superchilled for 3 or 6 days, then **thawed** and held at +5 or +10°, spoilage processes resumed as judged by trimethylamine, hypoxanthine, and free fatty acid increases. Changes at +5° in samples that had been held at -1 and at -1.6° were slightly slower than in controls at 0° similarly treated, but in samples presuperchilled at -3 and -4° spoilage changes at +5° were markedly delayed. No deleterious effect on protein extractability was detected. Thus, superchilling at -4° for 3 and for 6 days was very effective, increasing the postfilleting storage life to 8 and 11 days, resp., as compared to 5 days for controls held at 0° for 3 days before transfer to 5°.

ST fish frozen storage spoilage; protein fish frozen

IT Cod
Fish
(frozen, proteins of, temperature in relation to)

IT Proteins
RL: BIOL (Biological study)
(of fish, frozen, temperature in relation to)

L62 ANSWER 9 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 1959:124541 HCAPLUS
DN 53:124541
OREF 53:22430a-d
ED Entered STN: 22 Apr 2001
TI **Latex**-fixation test in rheumatoid arthritis. II. Characterization of the thermolabile inhibitor by a serologic study
AU Schubart, Adalbert F.
CS Harvard Med. School, Boston, MA
SO New England Journal of Medicine (1959), 261, 579-85
CODEN: NEJMAG; ISSN: 0028-4793
DT Journal
LA Unavailable
CC 11G (Biological Chemistry: Pathology)

AB cf. ibid. 363-8. The **latex**-fixation test of Singer and Plotz (C.A. 52, 17475d) for rheumatoid arthritis depends on the interaction of human γ-globulin with, presumably, various serum components, among which the rheumatoid factor is outstanding. Polystyrene **latex** particles act as

carriers for the γ-globulin and as **indicators** for the precipitin reaction that occurs on the surface of the biologically inert particles. A thermolabile inhibitor (I) of the **latex**-fixation reaction was demonstrated in the mid-piece of rheumatoid and normal serums. I was adsorbed with an antigen-antibody system from both whole serum and the mid-piece of rheumatoid and normal serums. Selective destruction of the third and fourth components of serum complement did not significantly alter the inhibition phenomenon. I appears to have some of the characteristics of the first component of serum complement. It was inactivated in serum by storage 6-22 days at 1-4°, by repeated **thawing** and freezing, by exposure to room temperature, and by heating 2-15 min. at 56°. It was relatively stable at -20°. The autoinactivation of I during prolonged incubation at 37° suggests that an enzymic reaction might be involved in the inhibition phenomenon.

IT Arthritis
(**latex**-fixation test in)

L62 ANSWER 10 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 1958:62664 HCAPLUS
DN 52:62664
OREF 52:11315b-i,11316a
ED Entered STN: 22 Apr 2001
TI American Society for Testing Materials, Standards, 1957 Supplement. Part III. Cement, concrete, ceramics, thermal insulation, road materials, waterproofing, soils
SO (1957), 418 pp.
DT Book
LA Unavailable
CC 13 (Chemical Industry and Miscellaneous Industrial Products)
AB cf. C.A. 51, 9037d. Standards or tentative standards, adopted or revised in 1957, are given for standard-strength clay sewer pipe; concrete sewer pipe; gypsum plasters; making and curing concrete compression and flexure test specimens in the field and in the laboratory; concrete aggregates; CaO and Ca(OH)2 for silica-brick manufacture; sampling, inspection, packing, and marking of lime and limestone products; building brick; reinforced concrete culvert, storm drain, and sewer pipe; chemical analyses of portland cement and of soda-lime glass for SiO2; extra-strength clay pipe; portland blast-furnace slag cement; structural insulating board made from vegetable fibers; standard-strength perforated clay pipe; facing brick; test for comparing concretes on basis of bond developed with reinforcing steel; test for scratch hardness of coarse aggregate particles; test for bleeding of cement pastes and mortars; standard-strength and extra-strength ceramic-glazed or unglazed clay sewer pipe; test for CaSO4 in hydrated portland-cement mortar; test for permanent linear change on firing of castable refractories; mortar for unit masonry; definition of terms relating to porcelain enamel; chemical test for potential reactivity of aggregates; sampling and testing fly ash for admixt. in portland-cement concrete; test for bond strength of chemical-resistant mortars; test for softening point of glass; portland-pozzolan cement; test for flexural strength of hydraulic-cement mortar; test for compressive strength of hydraulic-cement mortars; reinforced concrete low-head pressure pipe; sampling preformed thermal insulation; mineral-wool block or board thermal insulation for **elevated temps**.; resin-type chemical-resistant mortars; test for compressive strength of chemically setting silicate-type chemical-resistant mortars; use of hydraulic-cement mortars in chemical-resistant masonry; use of chemically setting silicate-type, and of resin-type, chemical-resistant mortars; testing CaO and Ca(OH)2 for neutralization of waste acid; classification of castable refractories; raw or calcined natural pozzolans for use as admixt. in portland-cement concrete; test for rate of hardening of mortars sieved from concrete mixts.; aggregates for masonry grout; test for consistency of wet-mixed thermal insulating cement; roofing slate; test for compressive strength of fired whiteware materials; test for thermal conductivity of whiteware ceramics; test for torsion resistance of laboratory specimens of porcelain-enameled Fe and steel; industrial floor brick; test for **water** and sediment by centrifuge; testing asphalt roll roofing, cap sheets, and shingles; mineral filler for sheet asphalt and bituminous concrete pavements; test for moisture-d. relations of soil-cement mixts.; wetting-and-drying test of compacted soil-cement mixts.; freezing-and- **thawing** test of compacted soil-cement mixts.; conversion of kinematic viscosity to Saybolt Furol viscosity; crushed stone, crushed slag, and crushed gravel for dry-bound or **water**-bound macadam-base courses or for single or multiple bituminous surface treatments; test for moisture-d. relations of soils; test for cement content of soil-cement mixts.; emulsified asphalt; test for load-settlement relation for individual piles; test for moisture or volatile distillates in bituminous mixts.; verification of testing machines; A.S.T.M. **thermometers**; A.S.T.M. hydrometers; weighing and drying apparatus for microchem. analysis; and inspection and verification of hydrometers. Tentative revisions submitted in 1957 are given for chemical analysis of portland cement; gypsum plasters; facing brick; structural clay facing tile; sampling and testing structural clay tile; fireclay-base castable refractories for boiler furnaces and incinerators; classification of fireclay refractory brick; panel spalling test for refractory brick; test for disintegration of refractories in an atmospheric of CO; chemical analysis of soda-lime glass; woven cotton fabrics saturated with bituminous substances for use in

waterproofing; asphalt-saturated roofing felt; asphalt-saturated asbestos; and asphalt-saturated and coated asbestos felts.

IT Wastes
(acid, testing CaO and Ca(OH)2 for neutralization of)
IT Concrete
Grout
(aggregates for, standards for)
IT Soils
(analysis, determination of cement)
IT Testing materials
(apparatus for, verification of)
IT Concrete
(ash (fly) for, testing of)
IT Roofing
(asphalt roll, testing of)
IT Shingles
(asphalt, testing of)
IT Cement
(bleeding of pastes of, determination of)
IT Mortar
(bleeding of, determination of)
IT Mortar
(bond strength of chemical-resistant, determination of)
IT Floors
(brick, standards for)
IT Mortar
(calcium sulfate determination in)
IT Thermal insulators
(cement, determination of consistency of wet-mixed)
IT Masonry
(chemical-resistant)
IT Refractory materials
(classification of castable)
IT Ceramic materials
(compressive strength and thermal conductivity of, determination of)
IT Pipes
(concrete (reinforced) culvert, storm drain and sewer, standards for)
IT Pipes
(concrete (reinforced) low-head pressure, standards for)
IT Cement
(consistency of wet-mixed thermal insulating, determination of)
IT Soils
(density-H2O relations of, determination of)
IT Cement
(determination in soil)
IT Sediments
(determination of, centrifuge in)
IT Volatile substances
(determination of, in bituminous mixts.)
IT Softening points
(determination of, of glass)
IT Asphalt
(emulsified, standards for)
IT Paving
(fillers for asphalt and bituminous concrete, standards for)
IT Refractory materials
(firing of, determination of linear change in)
IT Bricks
(floor, standards for)
IT Ashes
(fly, for concrete, sampling and testing of)
IT Drying apparatus
(for analysis (micro-))
IT Filling materials
(for asphalt and bituminous concrete pavements, standards for)
IT Pozzolans
(for concrete)
IT Aggregates
(for grout, standards for)

IT Slags
(for macadam-base courses or bituminous surface treatments)
IT Stone
(for macadam-base courses or bituminous surface treatments, standards for)
IT Lime
(for silica-brick manufacture, standards for)
IT Cement
(from slags, standards for)
IT Plaster
(gypsum, standards for)
IT Mortar
(hardening of, determination of)
IT Particles
(hardness of aggregate, determination of)
IT Aggregates
(hardness of, determination of)
IT Viscosity
(kinematic, conversion to Saybolt Furol viscosity)
IT Hardness
(measurement of, of coarse aggregates)
IT Conductivity, thermal and(or) conduction
(measurement of, of whiteware)
IT Analysis
(micro-, drying and weighing apparatus for)
IT Balances
(micro-, standards for)
IT Cement
(mixture with soil, determination of d.-**H2O** relations of)
IT Cement
(mixture with soil, freezing-and-**thawing** test of)
IT Cement
(mixture with soil, wetting-and-drying test of)
IT Soils
(mixts. with cement, d.-**H2O** relations of, determination of)
IT Soils
(mixts. with cement, freezing-and-**thawing** test of)
IT Soils
(mixts. with cement, wetting-and-drying test of)
IT Concrete
(mortar from, hardening rate of, determination of)
IT Enamels
(nomenclature of porcelain)
IT Sampling
(of fly ash)
IT Sampling
(of insulation (preformed thermal))
IT Nomenclature
(of porcelain enamel)
IT Firing
(of refractories (castable), linear change in, determination of)
IT Neutralization
(of wastes (acidic), testing CaO and Ca(OH)2 for)
IT Cement
(portland-pozzolan, standards for)
IT Concrete
(pozzolans for)
IT Limestone
(products from, sampling, inspection, packing and marking of)
IT Aggregates
(reactivity of, determination of)
IT Concrete
(reinforced, culverts, sewer pipes and storm drains from, standards for)
IT Concrete
(reinforced, low-head pressure pipe from, standard for)
IT Torsion
(resistance of porcelain-enameled Fe and steel, determination of)
IT Thermal insulators

(sampling preformed)
IT Lime
(sampling, inspection, packing and marking of)
IT Clays
(sewer pipe from, standards for)
IT Concrete
(sewer pipes, standards for)
IT Pipes
Pipes
(sewer, standards for)
IT Cement
(silica determination in)
IT Glass
(silica determination in soda-lime)
IT Bricks
(silica, Ca(OH)2 and CaO for)
IT Mortar
(silicate-type chemical-resistant, compressive strength of, determination of)
IT Roofing
(slate for, standards for)
IT Glass
(softening point determination of)
IT Hydrometers
Mortar
Thermometers
(standards for)
IT Thermal insulators
(standards for boards)
IT Bricks
(standards for building)
IT Mortar
(standards for resin-type chemical-resistant)
IT Gravel
(standards for, for macadam-base courses or bituminous surface treatments)
IT Mortar
(strength of, determination of)
IT Concrete
(testing of)
IT Asphalt
(testing of cap sheets, roll roofing and shingles)
IT Mineral wool
(thermal insulation from, standards for)
IT Enameled ware
(torsion resistance of, determination of)
IT Lime
(waste (acid) neutralization by, determination of)
IT Density
(**water** content and, of soil, determination of)
IT Density
(**water** content and, of soil-cement mixts., determination of)
IT 7732-18-5, **Water**
(-density relations of soil, determination of)
IT 7732-18-5, **Water**
(-density relations of soil-cement mixts., determination of)
IT 1305-62-0, Calcium hydroxide
(acid (waste) neutralization by, determination of)
IT 7732-18-5, **Water**
(analysis, centrifuge in)
IT 7778-18-9, Calcium sulfate
(determination in mortar)
IT 7732-18-5, **Water**
(determination of, in bituminous mixts.)
IT 7631-86-9, Silica
(determination of, in cement and glass)
IT 1305-62-0, Calcium hydroxide
(for silica-brick manufacture, standards for)
IT 7439-89-6, Iron
(porcelain-enameled, torsion resistance of, determination of)

L62 ANSWER 11 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 1956:66333 HCAPLUS
DN 50:66333
OREF 50:12353a-i,12354a-i,12355a-i,12356a-i,12357a-e
ED Entered STN: 22 Apr 2001
TI American Society for Testing Materials, Standards, 1955, III. Cement, concrete, ceramics, thermal insulation, road materials, waterproofing, soils
SO (1955), 2017 pp.
DT Book
LA Unavailable
CC 13 (Chemical Industry and Miscellaneous Industrial Products)
AB cf. C.A. 47, 8930c. Standards or tentative standards, adopted or revised in 1955, are given for: drain tile, CaO for structural purposes; normal finishing hydrated lime; paving brick; natural cement; definitions of terms relating to gypsum; installing clay sewer pipe; standard strength clay sewer pipe; concrete sewer pipe; testing refractory brick under load at high temps.; chemical analysis of refractory materials; tests for apparent porosity, **water** absorption, sp. gr., and bulk d. of burned refractory brick; gypsum; test for pyrometric cone equivalent of refractory materials; chemical analysis of limestone, CaO, and Ca(OH)2; testing gypsum and gypsum products; classification of fireclay refractories; gypsum plasters; tests for unit weight of aggregates and for voids in aggregate for concrete; making and curing concrete compression and flexure test specimens in the field and in the laboratory; sewer brick; concrete aggregates; structural clay load-bearing wall tile; inorg. aggregates for use in interior plaster; gypsum wallboard and lath; test for compressive strength of molded concrete cylinders; test for inorg. impurities in sands for concrete; securing, preparing, and testing specimens from hardened concrete for compressive and flexural strengths; definitions of terms relating to structural clay tile; CaO and Ca(OH)2 for cooking of rags in paper manufacture, for silica brick manufacture, and

L62 ANSWER 12 OF 12 HCAPLUS COPYRIGHT ACS on STN
AN 1953:6741 HCAPLUS
DN 47:6741
OREF 47:1229c-f
ED Entered STN: 22 Apr 2001
TI Independent functions of viral protein and nucleic acid in growth of bacteriophage
AU Hershey, A. D.; Chase, Martha
CS Carnegie Inst. Washington, Cold Spring Harbor, NY
SO Journal of General Physiology (1952), 36, 39-56
CODEN: JGPLAD; ISSN: 0022-1295
DT Journal
LA Unavailable
CC 11C (Biological Chemistry: Microbiology)
AB When a particle of bacteriophage T2 attaches itself to a bacterial cell osmotic shock disrupts it, most of the phage deoxyribonucleic acid (DNA) entering the cell while a residue containing at least 80% of the S-containing phage protein precipitable by antiphage serum is specifically adsorbed to the surface of the **bacterium**. This residue which forms the protective membrane of the resting phage particle plays no further part in the infection, though it constitutes probably the principal antigenic material. The function of the other 20% of S-containing protein is not known, but apparently it is not incorporated into the progeny of the infecting particle. Heating or alternate freezing and **thawing** sensitize the DNA of the adsorbed phage to DNA-ase, but this treatment does not release the phage DNA from infected cells which must form part of the organized intracellular structure. Agitating infected cells in a Waring blendor releases 75% of phage S and 15% of phage P, but the cells retain the ability to yield phage progeny. It has been found further that **bacteria** infected with phage, labeled with radioactive S, yield phage progeny containing less than 1% of the parental radioactivity, but similar expts. with radioactive P yield progeny containing 30% of the radioactive P. Inactivated with dilute HCOH, phage is still adsorbed but does not release DNA to the **bacteria**.
IT Isotopes
(as **indicators**, of bacteriophage growth)
IT Nucleic acids
(in bacteriophage growth)
IT Proteins
(virus, in bacteriophage growth)
IT Bacteriophages
(Escherichia coli T2, growth of, viral protein and nucleic acid in)
IT 9003-33-2, Poly(divinyl formal)
(effect on bacteriophage)
IT 7704-34-9, Sulfur

(isotopes as **indicators**, in bacteriophage growth)
IT 7723-14-0, Phosphorus
(isotopes of, as **indicators** in bacteriophage growth)

L89 ANSWER 1 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 634977 FROSTI
TI The 'danger zone' reevaluated.
AU Bryan F.L.
SO Food Safety Magazine, 2004, (February-March), 10 (1), 55-69 (65 ref.)
DT Journal
LA English
SL English
AB This report examines the concept of food 'danger zones' with reference to cooking and holding **temperature**-time **limits** for periods for hot and cold foods, and processing settings for food pasteurization/sterilization. Useful tables list the minimum, optimum, and maximum pH, the **water** activity, and growth temperatures for most of the important foodborne pathogens. Other tables present the thermal destruction times (D-values) for these **microorganisms** in various foods at different temperatures. Practical examples are provided to illustrate how inappropriate choice of food holding temperature can lead to microbial growth, and increase the risk of foodborne outbreaks, especially with regard to minimally-processed and ready-to-eat foods.
SH CONTAMINATION
CT COOKING; D VALUE; GROWTH; GUIDELINES; IDENTIFICATION; INTERACTIONS; **MICROORGANISMS**; PROCESSING; RECOMMENDATIONS; RISKS; SAFETY; TEMPERATURE; TIME
DED 15 Apr 2004

L89 ANSWER 2 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 620303 FROSTI
TI Shape memory alloy temperature sensor.
IN Shahinpoor M.
SO United States Patent
PI US 6612739 B 20030902
AI 20011205
NTE 20030902
DT Patent
LA English
SL English
AB An improved temperature sensor consisting of a sensing element that is partially made with a shape memory alloy is disclosed. Unlike conventional shape memory alloy, the temperature sensor of the invention provides a persistent record of temporary temperature deviations or once the **temperature** reaches a **critical** value. It claims to facilitate handling, storage, and transport of various products and maintenance of their quality. The invention is particularly suitable for food products such as frozen dairy products, frozen meat products, and frozen medical products, e.g., blood, that can spoil when exposed to **thawing** temperatures for even a short time.
SH EQUIPMENT
CT EQUIPMENT; FROZEN FOODS; PATENT; PRESERVED FOODS; PROCESS CONTROL EQUIPMENT; SENSORS; TEMPERATURE; **TEMPERATURE INDICATORS** ; TEMPERATURE SENSORS; US PATENT
DED 7 Oct 2003

L89 ANSWER 3 OF 37 FSTA COPYRIGHT IFIS on STN
AN 2004:C0524 FSTA
TI Oriented adhesion of Escherichia coli to polystyrene particles.
AU Jones, J. F.; Feick, J. D.; Imoudu, D.; Chukwumah, N.; Vigeant, M.; Velegol, D.
CS Correspondence (Reprint) address, D. Velegol, Dep. of Chem. Eng., Pennsylvania State Univ., University Park, PA 16802, USA. Tel. (814) 865 8739. Fax (814) 865 7846, E-mail velegol(a)psu.edu
SO Applied and Environmental Microbiology, (2003), 69 (11) 6515-6519, 54 ref. ISSN: 0099-2240
DT Journal
LA English
AB Bacterial adherence and biofilms are a critical problem for in situ bioremediation, heat exchanger fouling, biomaterial infections, etc. Adherence of nonflagellated Escherichia coli strain K-12 to polystyrene (PS) **latex** spheres or glass capillaries was observed using video microscopy, differential electrophoresis, rotational electrophoresis and sheer swaying analysis.

In particular, the orientation of the rod-shaped **bacteria** on adherence to surfaces in 100mM phosphate-buffered **saline** was examined. Data showed that PS particles adhered to the ends of the **bacteria** >90% of the time. Moreover, the PS particles adhered to 1 end only, never to both. Similarly, with glass the **bacteria** adhered on their ends. In order to determine whether the end of a **bacterium** had a different charge density from that of the middle, rotational electrophoresis was used, and results **indicated** no measurable nonuniformity of charge. **Bacteria** irreversibly adhered to the PS spheres. It is suggested that the oriented adherence is not likely to be due to surface lipopolysaccharides (LPS), since the 3 strains of K-12 used, each having a different length of LPS, showed similar behaviour. Results are discussed in terms of bacterial cell polarity. It is concluded that nanodomains on the bacterial ends are important for adherence, and that the time scale for irreversible adherence is short.

CC C (Hygiene and Toxicology)
CT ESCHERICHIA; FOOD SAFETY; GLASS; POLYSTYRENE; ADHERENCE; ESCHERICHIA COLI

L89 ANSWER 4 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 613157 FROSTI
TI Decontamination of pork carcasses during scalding and the prevention of Salmonella cross-contamination.
AU Bolton D.J.; Pearce R.; Sheridan J.J.; Mcdowell D.A.; Blair I.S.
SO Journal of Applied Microbiology, 2003, (March), 94 (6), 1036-1042 (30 ref.)
Published by: Blackwell Science Ltd. Address: Osney Mead, Oxford OX2 OEL, UK. Telephone: +44 (1865) 206206. Fax: +44 (1865) 721205. Web: www.blackwell-science.com/jam
ISSN: 1364-5072
DT Journal
LA English
SL English
AB The processing of pig carcasses involves scalding in a large vat containing **water** at 60-70 C prior to singeing to remove hair, but this **water** can quickly become contaminated with dirt, faeces, ingesta and any **bacteria** carried by the pigs. This study aimed to identify the **critical** time-**temperature** combinations required to prevent cross-contamination of pork carcasses during scalding, by monitoring the survival of mixtures of antibiotic-resistant mutants of Salmonella species in commercial scald-tank **water** at 50, 55 and 60 C. The results of microbiological analysis showed a 1-log reduction in Salmonella in scald-tank **water** to be achieved by a time-temperature combination of 1.4 minutes at 60 C, or 0.18 minutes at 65 C. The model developed should enable pork processors to identify the process conditions required to limit the risks of transfer of Salmonella between pig carcasses during scalding.
SH PROTEINS
CT **BACTERIA**; CARCASSES; CONTAMINATION; CROSS CONTAMINATION; DECONTAMINATION; **MICROORGANISMS**; PIG CARCASSES; SALMONELLA; SCALDING; TEMPERATURE
DED 1 Jul 2003

L89 ANSWER 5 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 632093 FROSTI
TI Pseudomonas syringae as an **ice nucleator** - application to freeze-concentration.
AU Wideham P.; Cochet N.
SO **Process Biochemistry, 2003**, (December 29), 39 (4), 405-410 (19 ref.)
Published by: Elsevier Science. Address: PO Box 211, 1000 AE Amsterdam, The Netherlands. Telephone: +31 (20) 485 3757. Fax: +31 (20) 485 3432. Email: nlinfo-f@elsevier.nl Web: www.elsevier.nl/locate/procbio
ISSN: 0032-9592
DT Journal
LA English
SL English
AB **Ice nucleation bacteria** were prepared by freeze drying and tested as **ice nucleators** in place of the seeding step currently used in freeze concentration processes. Pseudomonas syringae prepared by freeze drying was found to be more efficient than silver iodide for reducing the degree of supercooling. Freezing operations carried out with distilled **water** and 10% sucrose solutions **indicated** that the degree of supercooling was 3 C with silver iodide, and reached 1.9 C when P. syringae freeze-dried cells were added. During freeze concentration assays, addition of P. syringae resulted in a lower saccharose level in crystals, while cells mainly accumulated with saccharose in the concentrated phase.
SH PROCESSING
CT **BACTERIA**; BACTERIAL CELLS; CONCENTRATION; FREEZE CONCENTRATION; FREEZE DRIED CELLS; **ICE NUCLEATING BACTERIA**; **ICE NUCLEATING MICROORGANISMS**; MICROBIAL

CELLS; **MICROORGANISMS**; PSEUDOMONAS; PSEUDOMONAS SYRINGAE; SUPERCOOLING
DED 9 Mar 2004

L89 ANSWER 6 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 603380 FROSTI
TI Modelling the effects of temperature, **water** activity, pH and lactic acid concentration on the growth rate of Escherichia coli.
AU Ross T.; Ratkowsky D.A.; Mellefont L.A.; McMeekin T.A.
SO International Journal of Food Microbiology, 2003, (April 15), 82 (1), 33-43 (40 ref.)
Published by: Elsevier Science. Address: PO Box 211, 1000 AE Amsterdam, The Netherlands. Telephone: +31 (20) 485 3757. Fax: +31 (20) 485 3432. Email: nlinfo-f@elsevier.nl Web: www.elsevier.nl/locate/ijfoodmicro
ISSN: 0168-1605
DT Journal
LA English
SL English
AB Pathogenic Escherichia coli has been implicated in outbreaks of foodborne disease. A model was developed to describe the effects of **water** activity (0.951-0.999), temperature (7.63-47.43 C), pH (4.02-8.28) and lactic acid concentration (0-500 mM) on the growth rate of Escherichia coli. The model combined previously published square root-type models and included terms for **upper** and lower **limiting temperatures** and pH values, minimum inhibitory concentrations of lactic acid, and lower limiting **water** activity. There was good agreement between experimental and predicted values.
SH CONTAMINATION
CT ACIDS; ACIDULANTS; **BACTERIA**; CHEMICAL PROPERTIES; CONTENT; ESCHERICHIA; ESCHERICHIA COLI; FACTORS AFFECTING; GROWTH; HUMAN GROWTH; LACTIC ACID; MATHEMATICAL MODELLING; **MICROORGANISMS**; ORGANIC ACIDS; PH; TEMPERATURE; **WATER** ACTIVITY; **WATER** CONTENT
DED 18 Feb 2003

L89 ANSWER 7 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 599109 FROSTI
TI Basic aspects.
AU Leistner L.; Gould G.W.
SO Hurdle technologies: combination treatments for food stability, safety and quality., Published by: Kluwer Academic/Plenum Publishers, New York, 2002, 29-45 (0 ref.)
Leistner L.; Gould G.W.
ISBN: 0-306-47263-5
DT Book Article
LA English
AB Hurdles employed for effective food preservation need to either inhibit the growth of **microorganisms** that occur in a particular foodstuff or inactivate them. Most **microorganisms** resist the effects of inhibitory hurdles to some extent, this resistance sometimes being extreme and difficult to overcome. Mechanisms enabling **microorganisms** to overcome some of the major environmental extremes are mostly centred on various types of homeostasis. Major environmental stresses and homeostatic reactions of relevance to hurdle preserved foods are tabulated. Homeostatic mechanisms are known to contribute to the extreme resistance of **bacteria**, particularly yeasts and fungi, to important biocides and food preservatives, especially weak organic acids. Homeostasis is discussed in relation to acidification, organic acid preservatives, reduced **water** activity, temperature and heat. Metabolic exhaustion of **microorganisms** might lead to autosterilization of foods. Metabolic exhaustion of vegetative **microorganisms** appears to occur more rapidly if the stability of the food is close to the **threshold** for growth, storage **temperature** is elevated, antimicrobial substances are present, anaerobic conditions prevail and the **microorganisms** are sublethally injured. The stress response of target **microorganisms** to the preservation procedure being applied is considered. Effective hurdle technologies employ multiple hurdles to preserve foods.
SH PROCESSING
CT ACIDIFICATION; ACIDS; AUTOMATIC STERILIZATION; CONTENT; GROWTH; HEAT; HOMEOSTASIS; HURDLE TECHNOLOGY; INACTIVATION; INHIBITION; MECHANISMS; METABOLISM; **MICROORGANISMS**; ORGANIC ACIDS; PHYSIOLOGICAL STRESS; PRESERVATION; PRESERVATIVES; PROCESSING; REDUCTION; STERILIZATION; TEMPERATURE; **WATER** ACTIVITY; **WATER** CONTENT
DED 9 Jan 2003

L89 ANSWER 8 OF 37 FROSTI COPYRIGHT LFRA on STN

AN 547203 FROSTI
TI High pressure processing.
AU Farkas D.F.; Hoover D.G.
SO Journal of Food Science, 2001, 65, supplement 'Kinetics of Microbial Inactivation for Alternative Food Processing Technologies', 47-64 (139 ref.)
Published by: Institute of Food Technologists Address: 221 N. LaSalle Street, Suite 300, Chicago, IL 60601-1291, USA Telephone: +1 (312) 782 8424 Fax: +1 (312) 782 8348 Email: info@ift.org Web: www.ift.org/resource/publ/jfs
ISSN: 0022-1147
DT Journal
LA English
SL English
AB The principles of high-pressure processing of foods are set out. The influence of pH, **water** activity and temperature, and equipment for batch, semi-continuous, continuous and pulsed systems are described. Effects of high hydrostatic pressures on non-spore-forming **bacteria**, bacterial spores, yeasts, moulds, viruses and parasites are discussed. Applications of high-pressure processing for the inactivation of **microorganisms** in foods, alone or in combination with other technologies, are reported. Mechanisms of inactivation, mathematical modelling, and the importance of **temperature** are considered. **Critical** process factors and their monitoring and control are discussed.
SH PROCESSING
CT FACTORS AFFECTING; HIGH PRESSURE; INACTIVATION; MECHANISMS; **MICROORGANISMS**; PRESSURE RESISTANCE; PROCESSING; REVIEW
DED 15 Mar 2001

L89 ANSWER 9 OF 37 FSTA COPYRIGHT IFIS on STN
AN 2001(02):G0107 FSTA
TI The future of frozen foods.
AU Kennedy, C.
CS NutriFreeze Ltd., 8 Rowland Court, Huntingdon Rd., York YO32 9PW, UK. Tel. 01904 76765. E-mail chris.kennedy(a)nutrifreeze.com
SO **Food Science & Technology Today, (2000), 14 (4) 195-197, 6 ref.**
ISSN: 0950-9623
DT Journal
LA English
AB Production of frozen foods with high textural and nutritional quality is discussed, together with maintenance of this quality through to the point of consumption. Aspects considered include: advantages and disadvantages of frozen storage over other methods of food preservation; development of foods with increased resistance to the freeze-**thaw** cycle (selection of plant cv. with resistance to freeze-**thaw** damage; influence of an animal's diet on the oxidative rancidity of frozen meat products); developments in freezing technology (influence of the freezer on quality of the stored food product; development of impingement processes and zero adhesion technology in cryogenic freezers; exploitation of the anomalous behaviour of **water** under pressure to avoid the transition from **water** to ice; application of ultrasound during the freezing process; use of **bacteria** expressing **ice- nucleating** lipoproteins); control of ice crystal growth; recent improvements in design of cabinets for retail display of frozen foods; and improvements in home transport of frozen foods as a result of the emergence of internet shopping.
CC G (Catering, Speciality and Multicomponent Foods)
CT FREEZING; FROZEN FOODS; FREEZERS

L89 ANSWER 10 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 538680 FROSTI
TI Modelling the combined **temperature** and salt (NaCl) **limits** for growth of a pathogenic Escherichia coli strain using nonlinear logistic regression.
AU Salter M.A.; Ratkowsky D.A.; Ross T.; McMeekin T.A.
SO International Journal of Food Microbiology, 2000, (November 1), 61 (2-3), 159-167 (19 ref.)
Published by: Elsevier Science Address: PO Box 211, 1000 AE Amsterdam, The Netherlands Telephone: +31 (20) 485 3757 Fax: +31 (20) 485 3432 Email: nlinfo-f@elsevier.nl Web: www.elsevier.nl/locate/ijfoodmicro
ISSN: 0168-1605
DT Journal
LA English
SL English
AB Mathematical models that predict foodborne pathogen growth can be a useful tool in ensuring food safety. In this study, the approach was to investigate and model the conditions of **water**

activity and temperature that prevented the growth of a Shigatoxin-producing Escherichia coli strain. Experimental data for growth or non-growth of E. coli were collected for a temperature range of 7.7-37 C and for a **water** activity range of 0.943-0.987 (NaCl was the humectant). The data were modelled by non-linear logistic regression analysis of the growth/non-growth boundary resulting in the prediction of **water** activity and temperature combinations that could prevent the growth of E. coli with selected confidence levels.The concordance rate between predicted and experimental results was 97.3%. The temperature range of 25-30 C allowed growth at the minimum experimental **water** activity value. The authors suggest that this model might be suitable for predicting growth/non-growth conditions of other E. coli serotypes.

SH CONTAMINATION
CT **BACTERIA**; CONTENT; ESCHERICHIA; ESCHERICHIA COLI; GROWTH; MATHEMATICAL MODELS; MICROBIOLOGICAL METHODS; **MICROORGANISMS**; MODELS; PREDICTIVE MICROBIOLOGY; TEMPERATURE; **WATER** ACTIVITY; **WATER** CONTENT
DED 1 Dec 2000

L89 ANSWER 11 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 539479 FROSTI
TI Control of vegetative **micro-organisms** in foods.
AU Dooley J.S.G.; Roberts T.A.
SO Health and the food chain., Published by: Royal Society of Medicine Press Ltd, London, 2000, 142-157 (54 ref.)
Thurnham D.I.; Roberts T.A.
ISBN: 1-85315-453-9
DT Book Article
LA English
AB Consumer demands for more natural and minimally processed foods have led to greater challenges to the food industry to ensure food safety in relation to foodborne infections. The review discusses the significance of **microorganisms** in food safety, methods involved in minimising microbial contamination of food, and current practices used to control growth of **microorganisms** in foods. The effectiveness of heat in controlling **bacteria** in foods is examined and the growth-**limiting** conditions (**temperature**, pH, sodium chloride and **water** activity) for the most important microbial pathogens are summarised. Some future developments for the control of microbial growth are described
SH PROCESSING
CT **BACTERIA**; CHEMICAL PROPERTIES; CONTAMINATION; CONTENT; DESTRUCTION; DISEASES; GROWTH; HEAT; **MICROORGANISMS**; PATHOGENIC **BACTERIA**; PATHOGENS; PH; POISONING; PREVENTION; PROCESSING; SAFETY; SALTS; SODIUM CHLORIDE; TEMPERATURE; TRENDS; **WATER** ACTIVITY; **WATER** CONTENT
DED 6 Dec 2000

L89 ANSWER 12 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 516736 FROSTI
TI New method for determining internal temperature of cooking meat via NMR spectroscopy.
AU Walton J.H.; McCarthy M.J.
SO Journal of Food Process Engineering, 1999, (October), 22 (4), 319-330 (8 ref.)
ISSN: 0145-8876
DT Journal
LA English
SL English
AB Cooking is an effective method to kill foodborne pathogens, but a **critical** internal product **temperature** needs to be obtained to be certain of this, and internal temperature probes are not always suitable. Nuclear magnetic resonance (NMR) spectroscopy was used to measure the internal temperature of hamburgers, pork sausages, chicken thigh, chicken drumstick and breast. Determinations were made at 26 MHz, and at 300 MHz on 15-mm core samples. Several different NMR pulse sequences were investigated, and the NMR spectra are reported to be similar for all the products. The **water** to fat ratio of the products, and the quantity of **water** and fat lost during cooking could also be determined from the spectral data. By using the frequency difference of the **water** and fat lines within the NMR spectrum, the determination of internal temperature could be made for hamburgers and pork sausage with 1% precision, and with 5% for chicken. Since the method works at low fields (26 MHz), it is proposed that it might be possible to use it in for online process measurements.
SH PROTEINS
CT BURGERS; CHICKENS; CONTENT; COOKING; DESTRUCTION; FAT CONTENT; INTERNAL TEMPERATURE; MEAT PRODUCTS; **MICROORGANISMS**; MONITORING; NMR; PATHOGENS; PORK PRODUCTS; PORK SAUSAGES; POULTRY; PROCESSING; SAUSAGES;

SPECTROSCOPY; TEMPERATURE; **WATER** CONTENT
DED 28 Mar 2000

L89 ANSWER 13 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1998(03):A0362 FSTA
TI **Ice nucleating** activities of **ice nucleation**-active **bacteria** sterilized with heat, pressure and irradiation, and their thermophysical effects on **water**.
AU Hyun-Jeong Kim; Jiyong Park
CS Correspondence (Reprint) address, Jiyong Park, Dep. of Biotech., Yonsei Univ., Seoul 120-749, Korea
SO **Korean Journal of Food Science and Technology**, (1997), 29 (2) 326-336, 27 ref.
ISSN: 0367-6293
DT Journal
LA Korean
SL English
AB Four **ice nucleation**-active **bacteria** (**INA-bacteria**), Pseudomonas syringae, Xanthomonas campestris, Escherichia coli JM109/pEIN229 and Gluconobacter oxydans/pKIN230, were treated with heat, pressure and γ-irradiation to investigate viability and **ice nucleation** activity (**INA**) after sterilization; comparison of cumulative **INA** spectra was then carried out on the 4 **INA-bacteria**, as well as effects of these **microorganisms** on the thermogram of **water**. γ-Irradiated **INA-bacteria** showed the least decrease in T90 value (the temperature at which 90% of drops are frozen). According to cumulative **INA** spectra, γ-irradiated **INA-bacteria** showed little decrease in class A ice nuclei (nucleate H.sub.2O at >-5°C), pressurized **INA-bacteria** showed a >90% decrease in class A ice nuclei, and heat-treated **INA-bacteria** barely showed class A ice nuclei. DSC was used to examine the effect of **INA- bacteria** on thermophysical properties of **water** at freezing temperature Freezing peaks appeared at approx. 11-15°C higher on thermograms, and enthalpies of phase change decreased for **water** containing **INA-bacteria** compared with pure **water**, while melting peaks were not shifted. **INA**, measured by DSC, was significantly correlated with **INA** measured by the drop freezing method (R.sup.2 > 0.993, P < 0.0001), **indicating** that DSC can be used as a new, simple and precise method for measuring **INA**. [From En summ., tables & graphs]
CC A (Food Sciences)
CT **BACTERIA**; FREEZING; **ICE NUCLEATION ACTIVITY**

L89 ANSWER 14 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1998(04):H0665 FSTA
TI Evaluating particle counters.
AU O'Shaughnessy, P.T .; Barsotti, M. G.; Fay, J. W.; Tighe, S. W.
SO Journal American Water Works Association, (1997), 89 (12) 60-70, 22 ref.
DT Journal
LA English
AB [Since promulgation of the US Surface **Water** Treatment Rule (SWTR) and confirmed outbreaks of cryptosporidiosis and giardiasis, interest in particle counters as a process monitoring device for **water** treatment facilities has increased.] Particle counting methods for use in a **water** treatment facility were analysed to compare counts made by a particle counter with a forward-angle light scatter (FALS) sensor with counts made with a scanning electron microscope and by microscopic particulate analysis. A separate study compared an FALS sensor with a light obsurcation sensor when challenged with **latex** spheres and cultured **microorganisms** and when performing continuous in-line counts of the facility's filter effluent. Log removal values were comparable among the particle counting methods and did not vary significantly across various size ranges of an FALS sensor. **Microorganisms** were undersized by both sensor types compared with sizes determined with an optical microscope. These results suggest counters accurately **indicate** facility particle removal efficiency. However, counts made by a particle counter within a specific size range should be interpreted after characterizing the nature of the particles in the source.
CC H (Alcoholic and Non-Alcoholic Beverages)
CT APPARATUS; FOOD SAFETY BEVERAGES; **MICROORGANISMS**; **WATER**; PARTICLE COUNTERS

L89 ANSWER 15 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 427326 FROSTI
TI Physiological response of Enterococcus faecalis JH2-2 to cold shock : growth at low temperatures and freezing/**thawing** challenge.
AU Thammavongs B.; Corroler D.; Panoff J.-M.; Auffray Y.; Boutibonnes P.
SO Letters in Applied Microbiology, 1996, 23 (6), 398-402 (37 ref.)
DT Journal

LA English
SL English
AB Enterococcus faecalis is present at low temperatures in chilled foods and the bacterium is an indicator of faecal contamination. This study examined the growth of E. faecalis at low positive temperatures and resistance to extreme cold temperature (freezing/**thawing** cycles). Specific growth rates were determined at temperatures from 8 to 49 C and data were plotted according to the Arrhenius and Ratkowsky equations. The **temperature** characteristic, **critical temperature**, and the notional minimum growth temperature were obtained. E. faecalis cells had an increased ability to withstand short periods of freezing/**thawing** (cryotolerance) when first pre-incubated at low temperatures during periods corresponding to their generation time. The longer the period of positive low-temperature incubation, the higher the degree of adaptation.
SH MICROBIOLOGY
CT CRYOTOLERANCE; ENTEROCOCCUS; FAECALIS; FREEZING; GROWTH; LOW; LOW TEMPERATURE; RESISTANCE; TEMPERATURE; **THAWING**
DED 23 Jan 1997

L89 ANSWER 16 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1996(09):H0138 FSTA
TI Effect of ozone on EOM and coagulation.
AU Ashish Paralkar; Edzwald, J. K.
CS Tetra Tech Inc., 3746 Mt. Diablo Blvd., 300, Lafayette, CA 94549, USA
SO Journal American Water Works Association, (1996), 88 (4) 143-154, 30 ref.
DT Journal
LA English
AB Ozonation of drinking **water** containing algae sometimes produces beneficial effects on coagulation. These benefits are often attributed to the extracellular organic matter (EOM) from the algae. This study focused on the properties of extracted EOM from 3 species of algae [Scenedesmus quadricauda, Chlorella vulgaris and Cyclotella sp.]. Ozonation of EOM reduced its apparent molecular size and hydrophobicity. Ozonation also increased the functional groups charge of EOM compounds but decreased the charge as measured by colloid charge titration. Coagulation experiments with extracted EOM **indicated** that only small amounts were necessary to neutralize positively charged **latex** particles. Ozone produced no significant effect on EOM and thus did not affect coagulation of these particles. Alginic acid, a model EOM compound, was compared with the extracted EOM and behaved similarly to the high-molecular-size extracted EOM.
CC H (Alcoholic and Non-Alcoholic Beverages)
CT ALGAE; COAGULATION; DISINFECTION; HYGIENE; **MICROORGANISMS**; PROCESSING; **WATER**; OZONATION

L89 ANSWER 17 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 418087 FROSTI
TI Isolation and detection of Campylobacter, Vibrio, Clostridium, Bacillus cereus, viruses, yeasts, and other **microorganisms**.
AU Various authors
SO Abstracts of the annual meeting, 1996., Published by: ASM, Washington D.C., 1996, P66-P79
American Society for Microbiology
ISBN: 1-55581-112-4
DT Conference Article
LA English
AB Abstracts of the following papers are reproduced: 'Specific detection and confirmation of Campylobacter jejuni in foods by DNA hybridization and polymerase chain reaction (PCR)'; 'A modified AnaeroGen (TM) system for growing of Campylobacter spp.'; 'Detection of Vibrio cholerae 0139 in alkaline peptone broth enrichment of **water** and oyster homogenate by **latex** agglutination'; 'Evaluation of nonradioactive DNA probes for enumeration of Vibrio vulnificus in Gulf Coast oysters'; 'Comparison of a PCR method to the US FDA cultural procedure for the detection of toxigenic Vibrio cholerae in seafood'; 'Rapid identification of food isolates of Clostridium botulinum type A'; 'Miniaturized anaerobic cultivation methods for recovery of Clostridium sporogenes from meat'; 'Development of single chain antibodies for Bacillus cereus spores'; 'A sensitive method for enteric virus detection in hardshell clams by RT-PCR'; 'Improved detection of bacteriophage **indicators** of fecal contamination in ground beef and poultry'; 'A new medium designed to detect and quantity the total viable bacterial count of food after only 24 hours of incubation'; 'An easy-to-use method for the rapid screening of yeast contamination in rinse **water** samples from soft drink bottling plants'; 'Design of a 16S rRNA fluorogenic probe as an internal control for 5' nuclease based assays designed to detect bacterial pathogens'; and 'Effect of supplemented ferrioxamine E and oxyrase on the growth of foodborne pathogen'.
SH MICROBIOLOGY
CT BACILLUS CEREUS; **BACTERIA**; CAMPYLOBACTER; CLOSTRIDIUM; DETECTION; DETERMINATION; GANISM; IDENTIFICATION; MICROBIOLOGICAL

METHODS; MICROOR; PATHOGENS; VIBRIO; VIRUSES; YEASTS
DED 18 Sep 1996

L89 ANSWER 18 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 342984 FROSTI
TI Bacterial **ice-nucleation** activity and its application to freeze concentration of fresh foods for modification of their properties.
AU Watanabe M.; Arai S.
SO Journal of Food Engineering, 1994, 22 (1-4), 453-473 (44 ref.)
NTE Paper presented at the Fifth International Symposium on the Properties of Water in Foods (ISOPOW-V), Valencia, Spain, 1992.
DT Conference Article
LA English
SL English
AB In the presence of added **ice-nucleation**-active bacterial cells as ice nuclei, the bulk **water** in foods freezes at a subzero temperature near the melting point of ice. Treatment of **ice-nucleation**-active **bacteria**, in particular Xanthomonas campestris, and seeding, which can be carried out at room temperature, are described. Applications studied are use in processing raw egg white, with formation of a hard gel when heated and a fine foam when whipped; a freeze-concentrated dessert product from fresh milk that formed a gel when pressurised; a concentrate from fresh lemon juice; and a strawberry jam prepared without heating, comparable in texture and superior in flavour and **colour** to conventional jam.
SH PROCESSING
CT APPLICATIONS; **BACTERIA**; FREEZE CONCENTRATION; **ICE NUCLEATING**; XANTHOMONAS
DED 25 May 1994

L89 ANSWER 19 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 329862 FROSTI
TI High-pressure sterilization of **ice nucleation**-active Xanthomonas campestris and its application to egg processing.
AU Honma K.; Makino T.; Kumeno K.; Watanabe M.
SO Bioscience, Biotechnology and Biochemistry, 1993, 57 (7), 1091-1094 (11 ref.)
DT Journal
LA English
SL English
AB **Ice-nucleation** active **bacteria** are able to freeze **water** at sub-zero temperatures higher than -5 C. Application of **ice-nucleation** active **bacteria** to egg processing is reported. High-pressure treatment of Xanthomonas campestris INXC-1 was found to kill the cells without affecting their **ice-nucleation** activity. Freezing and **thawing** curves for egg white showed that in the presence of these killed cells the egg white began to freeze with a small degree of supercooling, while the rate of **thawing** was also higher in the presence of the cells. **Water** in the egg white appeared to form ice crystals, which reduced the freezing and **thawing** times.
SH PROCESSING
CT **BACTERIA**; EGG WHITE; EGGS; FREEZING; HIGH; HIGH PRESSURE; PRESSURE; PROCESSING; STERILIZATION; **THAWING**; XANTHOMONAS
DED 30 Nov 1993

L89 ANSWER 20 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 311053 FROSTI
TI Characterization of bacteriocin produced by Pediococcus pentosaceus from wine.
AU Strasser de Saad A.M.; Manca de Nadra M.C.
SO Journal of Applied Bacteriology, 1993, 74 (4), 406-410 (24 ref.)
DT Journal
LA English
SL English
AB Strains of Pediococcus pentosaceus occur in Argentinian wines but their antibacterial abilities are not known. This study investigates the inhibitory activity of twenty strains of P. pentosaceus isolated from wine. Only two strains had antibacterial activity and the spectra of these activities were different. Both strains were active against other P. pentosaceus strains but only one was also active against strains of Lactobacillus sp. and Leuconostoc sp. also isolated from wine. This more active bacteriocin was susceptible to organic **solvents** and proteolytic enzymes and was stable to high **temperatures** for **limited** periods.
SH MICROBIOLOGY
CT **BACTERIA**; BACTERIOCINS; INHIBITION; PEDIOCOCCUS; PENTOSACEUS; PROPERTIES

DED 21 May 1993

L89 ANSWER 21 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 345653 FROSTI
TI Food applications of curdlan.
AU Miwa M.; Nakao Y.; Nara K.
SO Food hydrocolloids: structures, properties and functions; proceedings of a conference, Tsukuba, November 1992., Published by: Plenum Press, New York, 1993, 119-124 (6 ref.)
Nishinari K.; Dori E.
ISBN: 0-306-44594-8
DT Conference Article
LA English
AB Curdlan is a thermogellable polysaccharide, produced by the **bacteria** of the Alcaligenes genus, which is capable of forming thermo-**irreversible** gels when heated in an **aqueous** solution to temperatures above 80 C and then cooled. The gels are also stable against freezing and **thawing**. This paper reports food applications of curdlan, with particular reference to retorted or frozen foods.
SH ADDITIVES
CT ADDITIVES; APPLICATIONS; CURDLAN; FACTORS AFFECTING; FREEZING; FROZEN FOODS; GELATION; GELLING AGENTS; GELLING PROPERTIES; GELS; PROCESSED FOODS; PROPERTIES; STABILITY; **THAWING**
DED 30 Jun 1994

L89 ANSWER 22 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 304276 FROSTI
TI Psychrotrophic Clostridium botulinum - microbiology and control in foods.
AU Advisory Committee on the Microbiological Safety of Food.
SO Report on vacuum packaging and associated processes., Published by: HMSO, London, 1992, 14-20 (no ref.)
Advisory Committee on the Microbiological Safety of Food.
ISBN: 0-11-321558-4
DT Book Article
LA English
AB This article discusses the ability of C. botulinum to grow and produce toxins at low temperatures, and the significance of this on the safety of chilled foods. It is reported that the lowest established **temperature limit** for spore development, growth and toxin production in psychrotrophic strains of C. botulinum is 3 C, and because it may not be practical to maintain temperatures below this throughout the chill chain it is recommended that other methods are used to prevent the growth of psychrotrophic clostrida in chilled foods. Consideration is given to the heat-resistance of C. botulinum, and recommended heating times and temperatures for the destruction of clostridial spores; and the effect of pH, **water** activity, oxygen, nitrite, competitive **microorganisms**, nisin, sorbate, spices and other inhibitory factors on the growth of C. botulinum.
SH MICROBIOLOGY
CT **BACTERIA**; BACTERIAL TOXINS; BOTULINUM TOXIN; CHILLED FOODS; CLOSTRIDIUM; CLOSTRIDIUM BOTULINUM; FORMATION; GROWTH; HEAT RESISTANCE; HEATING; INHIBITION; LOW; LOW TEMPERATURE; OCCURRENCE; PREVENTION; REDUCTION; TEMPERATURE; TOXINS
DED 16 Feb 1993

L89 ANSWER 23 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1992(06):J0039 FSTA
TI A new method for producing a non-heated jam sample: the use of freeze concentration and high-pressure sterilization.
AU Watanabe, M.; Arai, E.; Kumeno, K.; Honma, K.
CS Food Sci. Lab., Fac. of Education, Tokyo Gakugei Univ., Koganei-shi, Tokyo 184, Japan
SO Agricultural and Biological Chemistry, (1991), 55 (8) 2175-2176, 9 ref.
ISSN: 0002-1369
DT Journal
LA English
AB Production of a non-heated fresh strawberry jam sample by freeze concentration to remove excess **water** and by pressurizing to sterilize the product is described. Freeze concentrated jam was prepared from strawberry paste (1 kg) which had been centrifuged at 5000 x g.sub.n for 20 min at 0°C to yield juice (780 g) and pulp (220 g). Approx. 10.sup.3 Erwinia ananas IN-10 cells , as the **ice nucleation** active **bacteria**, were suspended in the juice and stored overnight at -5°C. The partially frozen juice was then centrifuged to obtain a freeze concentrate. Powdered sugar (1 kg), 5% pectin (100 g) and 10% citric acid (1 g) were mixed with the concentrate which was then

degassed. The non-heated jam was pressurized at 400 MPa at room temperature for 5 min to sterilize it. Properties of the non-heated jam were compared to conventionally prepared jam. There were no significant differences for any of the texture properties studied. The non-heated jam was superior in brightness and red **colour** to the conventional jam. GC analysis of the jam flavour compounds showed that the non-heated jam retained all the original flavour compounds. It is concluded that this procedure produces a jam with bright red **colour** and fresh flavour. It is suggested that the technique could be applied to other foods.

CC J (Fruits, Vegetables and Nuts)

CT CONCENTRATION; FREEZING; FRUITS; JAMS; PRESERVES; STRAWBERRIES; FREEZE CONCENTRATION; STRAWBERRY JAMS

L89 ANSWER 24 OF 37 FSTA COPYRIGHT IFIS on STN

AN 1991(11):C0009 FSTA

TI Cholera enterotoxin production in Vibrio cholerae O1 strains isolated from the environment and from humans in Japan.

AU Minami, A.; Hashimoto, S.; Abe, H.; Arita, M.; Taniguchi, T.; Honda, T.; Miwatani, T.; Nishibuchi, M.

CS Correspondence (Reprint) address, M. Nishibuchi, Dep. of Microbiol., Fac. of Med., Kyoto Univ., Konoe-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan

SO Applied and Environmental Microbiology, (1991), 57 (8) 2152-2157, 29 ref. ISSN: 0099-2240

DT Journal

LA English

AB Vibrio cholerae O1 strains isolated from various sources in Japan over the years 1977-1987 were examined to confirm the presence or absence of the cholera enterotoxin (CT) gene and production of CT and to determine the κ-phage type. The CT gene was detected in none of 225 isolates from natural **waters** but was present in all 10 isolates from environmental **waters** implicated in domestic cholera cases, in 64 (26.6%) of the 241 isolates from imported seafoods, in 43 (95.6%) of the 45 isolates from domestic cholera cases, and in 119 (93.7%) of the 127 isolates from imported cholera cases. Results suggest that CT gene-positive strains of V. cholerae O1 were imported into Japan through seafoods and/or by travellers. Sporadic cholera cases have resulted in contamination of the surrounding environment, but the CT gene-positive strains may not have persisted in natural **waters** to serve as a reservoir for epidemic cholera. The VET-RPLA kit (a **latex** agglutination kit for immunological detection of CT) detected production of CT in all of the CT gene-positive strains, **indicating** that there was no silent CT gene in the test strains. There was a strong correlation between the κ-phage type and the presence or absence of the CT gene, suggesting a significant clonal difference between CT gene-positive and -negative strains. 5 CT gene-negative strains isolated from imported cholera cases (travellers with mild diarrhoea) induced fluid accumulation in rabbit and/or suckling mouse intestines, **indicating** production of an enterotoxic factors(s) other than CT. It is necessary to characterize the fluid accumulation factor(s) and to study dissemination of the CT gene-negative O1 strains producing the enterotoxic factor(s) to assess the public health significance of the CT gene-negative O1 strains distributed in the environment.

CC C (Hygiene and Toxicology)

CT **BACTERIA**; DISEASES; ENTEROTOXINS; FOOD SAFETY; GENETICS; TOXINS; VIBRIO; CHOLERA; GENES

L89 ANSWER 25 OF 37 FROSTI COPYRIGHT LFRA on STN

AN 271594 FROSTI

TI Curdlan: properties and application to foods.

AU Nakoa Y.; Konno A.; Taguchi T.; Tawada T.; Kasai H.; Toda J.; Terasaki M.

SO Journal of Food Science, 1991, 56 (3), 769-72+776 (11 ref.)

DT Journal

LA English

SL English

AB Curdlan is a polysaccharide derived from **bacteria** such as Alcaligenes faecalis var. myxogenes. It forms a firm, resilient, thermo- **irreversible** gel when heated in an **aqueous** solution to above 80 C. Some of its potential food uses have already been examined. This paper investigates the effects of high heating temperatures, (100-130 C), heating time (15-60 min), curdlan concentration (2-6%), and freezing and **thawing** on gel strength and syneresis of gels of curdlan. Even at high temperatures, curdlan formed stable gels, which remained stable during freezing and **thawing**. The addition of waxy corn starch and sucrose reduced the syneresis caused by freezing and **thawing**. The results suggest that curdlan gels could be used in the preparation of new foods involving retort processing or freezing.

SH PROCESSING

CT CURDLAN; DETERMINATION; GELS; STABILITY; SYNERESIS

DED 12 Nov 1991

L89 ANSWER 26 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1991(06):R0002 FSTA
TI Maintenance of fish quality, handling and storage.
AU Anon.
SO Fish Trader Yearbook, (1990), 1990, 25-27
ISSN: 0953-8860
DT Journal
LA English
AB Following a brief description of spoilage mechanisms occurring in fish, steps necessary to maintain fish quality are discussed, including temperature control, handling and storage of wet, smoked and frozen fish, live shellfish, cooked shellfish, canned and bottled fish, delicatessen fish products, dried fish products and salted fish products, and **thawing** of frozen fish. The 'Fresh Fish **Thermometer**' sets out temperature for cleaning **water** (≥82°C), danger zone (4-60°C) for food spoilage and poisoning **bacteria**, critical zone (4-38°C) for food poisoning **bacteria**, fresh storage zone (-1 to 4°C), freezing temperature (-1 to -3°C), frozen storage temperature (-18 to -29°C) and 'quick frozen' temperature (≤-29°C).
CC R (Fish and Marine Products)
CT FISH; FOOD SAFETY; HANDLING; SHELLFISH; STORAGE; TEMPERATURE; SEA-FOODS; TEMP.

L89 ANSWER 27 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1990(10):H0082 FSTA
TI Screening of aquatic samples for Vibrio cholerae serotype 01 by a dot-blot method and a **latex** agglutination test.
AU Nishikawa, Y.; Hase, A.; Ishii, E.; Kishi, T.
CS Dep. of Epidemiology, Osaka City Inst. of Public Health & Environmental Sci., Tennoji, Osaka 543, Japan
SO Applied and Environmental Microbiology, (1990), 56 (6) 1547-1550, 18 ref.
ISSN: 0099-2240
DT Journal
LA English
AB A dot-blot, enzyme-linked immunosorbent method and a **latex** agglutination test were studied for their abilities to detect Vibrio cholerae serotype 01 in aquatic samples by testing artificially contaminated **water** as well as samples from natural potential sources. **Water** samples were preenriched with alkaline peptone and then enriched with Monsur peptone **water**. For the dot-blot test, enriched cultures of organisms in a small portion of Monsur peptone **water** were transferred to a polyvinylidene difluoride membrane with a microfiltration apparatus. The enzyme-linked immunosorbent assay was performed by using biotin-labelled antibodies and avidin-biotin- peroxide complex; brown dots developed in wells that contained serotype 01 vibrios. **Latex** agglutination tests were performed by mixing 1 drop of culture in Monsur with 1 drop of reagent coated with monoclonal antibody specific for antigen A. The sensitivities and specificities of the methods were compared with those of the colony-blot method, which identified individual colonies of V. cholerae 01 in mixed bacterial cultures on isolation media. The results **indicate** that the dot-blot method is as sensitive as the colony-blot method and is useful for screening for V. cholerae serotype 01 even in specimens that are heavily contaminated with non-01 vibrios.
CC H (Alcoholic and Non-Alcoholic Beverages)
CT **BACTERIA**; ELISA; FOOD SAFETY; IMMUNOLOGICAL TECHNIQUES; IMMUNOLOGY; VIBRIO; **WATER**; SEROTYPE

L89 ANSWER 29 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 265504 FROSTI
TI Salmonella and Listeria - factors affecting their growth and survival in foods. A literature survey.
AU Halligan A.C.
SO Published by: Leatherhead Food Research Association, 1989, 81pp. (many ref.)
Food Focus
NTE B.
DT (Leatherhead Food Research Association publication)
LA English
AB A large volume of research papers and reports has accumulated on the subject of Salmonella and Listeria monocytogenes. This report reviews the literature relating to the factors affecting the growth and survival of these **bacteria** in foods under the following headings: **temperature limits** for growth; heat resistance; chilling and freezing; sodium chloride/**water** activity; pH acidity; preservatives; irradiation; and disinfectants and sanitisers.
CT BEHAVIOUR; FOOD POISONING; GASTROENTERITIS; HEALTH; INHIBITION; LISTERIA; LISTERIA MONOCYTOGENES; POISONING; PROPERTIES; REVIEW; SALMONELLA
DED 19 Sep 1991

L89 ANSWER 30 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1989(07):R0017 FSTA
TI Biogenic **ice nucleators** in freezing of fish.
AU Ryder, J. M.
CS Univ. of Rhode Island, Kingston, RI 02881, USA
SO Dissertation Abstracts International, B, (1988), 49 (6) 2012: Order no. DA8811570, 230pp.
ISSN: 0419-4217
DT Dissertation
LA English
AB The author suggests that the biogenic **ice nucleating** agent Pseudomonas syringae could be used in fish to reduce freezing times and improve product quality by producing smaller, less damaging ice crystals. Freezing studies were conducted to determine the effectiveness of P. syringae on **water** nucleation in fish muscle. **Ice nucleating** suspensions of the **bacteria** caused nucleation in several foods when exposed to -5°C, while untreated samples either did not freeze or had extended nucleation times. The action of P. syringeae on **water** nucleation in fish muscle was temperature dependent. Total time to freeze was reduced by 51% for treated muscle at -5°C but at -10 and -18°C the differences disappeared. Forced nucleation using biogenic **ice nucleators** resulted in decreasing nucleation rate. Light microscopy studies **indicated** that: ice content of frozen salmon muscle was independent of final temperature, physiological state and forced nucleation; ice crystal size was independent of final temperature but dependent on physiological state and forced nucleation; and the location of ice crystals was intracellular and/or extracellular, depending on state of muscles, final temperature and whether nucleation had been forced.
CC R (Fish and Marine Products)
CT **BACTERIA**; CRYSTALLIZATION; DAMAGE; FISH; FREEZING; ICE; PSEUDOMONAS; **WATER**; PSEUDOMONADACEAE; SYRINGAE # NUCLEATION

L89 ANSWER 31 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 189256 FROSTI
TI Effect of temperature, **water** activity and other toxigenic mold species on growth of Aspergillus flavus and aflatoxin production on corn, pinto beans and soybeans.
AU Trucksess M.W.; Stoloff L.; Mislivec P.B.
SO Journal of Food Protection, 1988, 51 (5), 361-3 (15 ref.)
DT Journal
LA English
SL English
AB Samples of each commodity, inoculated with toxigenic A. flavus, A. ochraceus, Penicillium citrinum, P. cyclopium and P. urticae (either alone or in combination) and adjusted to various **water** activities were stored at 16, 26 and 32 C. They were then examined for aflatoxin production. Results **indicated** that substrate suitability at **limiting temperatures** and **water** activity is not a factor in the risk of aflatoxin contamination in these commodities. However, the associated mould flora, when the seed is exposed to mould invasion, is a risk determinant.
CT AFLATOXINS; ASPERGILLUS; BEANS; CEREALS; CORN; FORMATION; FUNGI; **MICROORGANISMS**; MYCOTOXINS; PENICILLIUM; PINTO BEANS; SOYA BEANS; SOYA PRODUCTS; STORAGE; TEMPERATURE; **WATER** ACTIVITY
DED 12 Sep 1988

L89 ANSWER 32 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 192240 FROSTI
TI Listeria monocytogenes: heat resistance and behaviour during storage of milk and whey and making of Dutch types of cheese.
AU Northolt M.D.; Beckers H.J.; Vecht V.; Toepoel L.; Soentoro P.S.S.; Wisselink H.J.
SO Netherlands Milk and Dairy Journal, 1988, 42 (2), 207-19 (22 ref.)
DT Journal
LA English
SL English; Dutch
AB The behaviour of Listeria monocytogenes in milk during cold storage, the effects of different heat treatments of milk on the **bacteria** and growth during Gouda and Maasdam cheese manufacture and ripening were studied. Depending on the strain tested, heat resistance of freely suspended and phagocytosed **bacteria** differed either a little or not at all. In raw and HTST-pasteurised milk Listeria showed some injury for the first 2 days, after which growth commenced. However, Listeria was not injured in milk had been intensively pasteurised. During cheese manufacture Listeria concentration was increased by curd entrapment and by some growth. It was also found that acidification rate, moisture content and ripening-**temperature** were not **critical** to Listeria growth.
CT ACIDIFICATION; **BACTERIA**; CHEESE; DAIRY PRODUCTS; DUTCH; GROWTH;

HEAT RESISTANCE; HTST PASTEURIZATION; INTENSIVE; LISTERIA; LISTERIA MONOCYTOGENES; **MICROORGANISMS**; MILK; PASTEURIZATION; PHAGOCYTOSIS; PROCESSING; PRODUCTION; RATE; RIPENING; STORAGE; TEMPERATURE; THERMISING; **WATER**; WHEY
DED 22 Nov 1988

L89 ANSWER 33 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 126718 FROSTI
TI Temperature and **water** activity minima for growth of spoilage moulds from meat.
AU Lowry P.D.; Gill C.O.
SO Journal of Applied Bacteriology, 1984, 56 (2), 193-9 (16 ref.)
DT Journal
LA English
SL English
AB The conditions which allows the growth of mould on frozen meat were studied by examining the minimum temperature and **water**-activity requirements of the fungi producing spoilage. It was found that -5 C was the practical **limiting temperature** for mould growth on meat, and mould spoilage would hence **indicate** that the freezer-stored meats have approached and possibly exceeded 0 C.
CT FREEZING; FROZEN MEAT; FUNGI; GROWTH; LOW TEMPERATURE; MEAT; **MICROORGANISMS**; TEMPERATURE; **WATER** ACTIVITY
DED 19 Jun 1984

L89 ANSWER 34 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 116436 FROSTI
TI Quality control in foodservice.
AU Thorner M.E.; Manning P.B.
SO Westport: Avi Pub. Co., Rev. ed, 366pp., 1983
ISBN: 0-87055-431-X
DT Book
CT **BACTERIA**; BAKERY PRODUCTS; BEVERAGES; CATERING; CATERING INDUSTRY; CHOCOLATE DRINKS; CLEANING; COFFEE; CONSUMPTION; CONTAMINATION; COOKERS; COOKING; COOKING EQUIPMENT; DESSERTS; DETERIORATION; DISEASES; DISPENSING; DISPENSING EQUIPMENT; ENERGY CONSUMPTION; EQUIPMENT; EVALUATION; FISH; FOOD POISONING; FROZEN FOODS; FRUIT JUICES; FRYERS; FRYING; FRYING EQUIPMENT; GRAVY; HYDROMETER; HYGIENE; MAINTENANCE; MEAT; **MICROORGANISMS**; MICROWAVE COOKERS; MILK; POISONING; POULTRY MEAT; PROBLEMS; PURCHASING; QUALITY CONTROL; QUALITY CONTROL EQUIPMENT; RAW MATERIALS; RECOMMENDED; REDUCTION; REFRACTOMETERS; SAMPLING; SAUCES; SAVINGS; SEAFOODS; SENSORY ANALYSIS; SENSORY PROPERTIES; SHELF LIFE; SOFT DRINKS; SPOILAGE; STEAM COOKERS; STORAGE; TASTE PANELS; TEA; **THAWING**; **THERMOMETERS**; VEGETABLES; VENDING EQUIPMENT; **WATER**
DED 30 Apr 1984

L89 ANSWER 35 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1981(11):H1704 FSTA
TI Capture of **latex** beads, **bacteria**, endotoxin, and viruses by charge-modified filters.
AU Hou, K.; Gerba, C. P.; Goyal, S. M.; Zerda, K. S.
CS AMF/CUNO, Meriden, Connecticut 06450, USA
SO Applied and Environmental Microbiology, (1980), 40 (5) 892-896, 12 ref.
DT Journal
LA English
AB This report demonstrates how electropositive filters can be used to enhance the removal of **microorganisms** and other negatively charged particles from **water**. It was shown that electropositive depth filters were capable of adsorbing viruses and endotoxins many times smaller than the average pore size of the filter. Electronegative filters of similar porosity or electropositive filters that had been treated to destroy the positive charge were almost ineffective under similar conditions for the removal of viruses and small **latex** spheres. The results of this study **indicate** that electropositive filters are highly effective in the removal of a wide range of contaminants over a wide range of pH values and ionic conditions.
CC H (Alcoholic and Non-Alcoholic Beverages)
CT **BACTERIA**; CONTAMINATION; FILTRATION; TOXINS; VIRUSES; **WATER**; CONTAMINANTS; ELECTROPOSITIVE; ENDOTOXINS; FILTERS

L89 ANSWER 36 OF 37 FROSTI COPYRIGHT LFRA on STN
AN 63354 FROSTI

TI Use of gradient incubator in studying the thermal characteristics of flat-sour strains.
AU Castelvetri F.; Casolari A.
SO Industria Conserve, 1980, 55 (3), 178-84 (17 ref.)
DT Journal
LA Italian
SL Italian; English
AB The effect of temperature and **water** activity on the substrate, on the growth of flat-sour strains of thermophilic **bacteria** was investigated, together with the relationship between **limiting water** activity and **temperature**.
CT **BACTERIA**; FLAT SOUR; FRUCTOSE; GLUCOSE; GRADIENT; GROWTH; HEAT RESISTANCE; INCUBATOR; MEDIA; MICROBIOLOGICAL MEDIA; MICROBIOLOGICAL METHODS; **MICROORGANISMS**; PROPERTIES; SODIUM CHLORIDE; SUCROSE; TEMPERATURE; THERMOPHILLIC; **WATER** ACTIVITY
DED 25 Aug 1981

L89 ANSWER 37 OF 37 FSTA COPYRIGHT IFIS on STN
AN 1977(10):G0757 FSTA
TI Fascinating jelly-like foods.
AU Anon.
SO Food Engineering International, (1977), 2 (4) 38-39
DT Journal
LA English
AB Some properties and uses of a polysaccharide produced by Takeda Chemical Industries Ltd., Tokyo, Japan, are described. The polysaccharide is obtained from an Alcaligenes or Agrobacterium culturs grown on glucose. The dehydrated powder swells and gels when added to **water** and heated. Gels which are thermally **irreversible** and unaffected by further addition of **water** can be produced over the pH range 2.0-9.5 and in the presence of many food additives. The gels may be used to make novel food products consisting of a jelly-like skin with a liquid core, and canned jellies. The concentration of the polysaccharide in **water** must be ≥1.5% for gel stability and ≤6.0% for taste acceptability. The gels are freeze-**thaw** stable and may be used to make an ice confection contained in an elastic gel skin.
CC G (Catering, Speciality and Multicomponent Foods)
CT **BACTERIA**; GELS; POLYSACCHARIDES; BACTERIAL POLYSACCHARIDE; FOODS

L94 ANSWER 1 OF 11 FROSTI COPYRIGHT LFRA on STN
AN 539935 FROSTI
TI Support material for the preparation of foodstuffs.
IN Gherghel R.O.; Gherghel J.C.; Gherghel R.D.
PA Gem Polymer Corp.
SO PCT Patent Application
PI WO 2000061439 A1
AI 20000412
PRAI United States 19990412; 19990915; 20000203
DT Patent
LA English
SL English
AB Methods are given for the preparation and treatment of foodstuffs such as in multiple processing steps of **freezing**, storing, **thawing** and heating. The foodstuff is placed in contact with a non-adherent support material comprising an **elastomeric** layer, a **polymer** blend layer and a polyethylene layer. This simplifies the treatment process and minimizes exposure of the foodstuff to **bacteria**.
SH PROCESSING
CT FREEZING; HEATING; PATENT; PCT PATENT; PROCESSING; STORAGE; SUPPORTS; THAWING
DED 12 Dec 2000

L94 ANSWER 2 OF 11 FROSTI COPYRIGHT LFRA on STN
AN 497456 FROSTI
TI Effect of **freeze-thaw** cycles during storage on quality of meat and liver of buffalo.
AU Sen A.R.; Sharma N.
SO Journal of Food Science and Technology, 1999, (January-February), 36 (1), 28-31 (17 ref.)
ISSN: 0022-1155
DT Journal
LA English
SL English

AB Meat and liver can undergo several **freeze-thaw** cycles during transport and storage. The effects of repeated **freezing** and **thawing** on the physicochemical, microbial and sensory qualities of packaged buffalo meat and liver were therefore investigated. The samples were packaged in HDPE or vacuum-packed in aluminium foil/HDPE laminates. Samples were frozen at -18 C for 5 days and thawed at refrigerated temperature (4 C) for one day, and the effects of four cycles were examined. Tyrosine and TBA values increased regardless of packaging. Drip loss was significantly affected by **freeze- thaw** cycles. There was a slight increase in bacterial count and a slight decrease in colour and odour scores with repeated cycles of **freezing** and **thawing**. Meat and liver could thus be safely consumed without health hazards for up to four **freeze- thaw** cycles.
SH PROTEINS
CT BUFFALO LIVER; BUFFALO MEAT; CHEMICAL PROPERTIES; FREEZING; HDPE; LAMINATES; MEAT; MICROBIOLOGY; **MICROORGANISMS**; PACKAGING; **PLASTICS**; POLYETHYLENE; POLYOLEFINS; PROCESSING; QUALITY; SAFETY; SENSORY PROPERTIES; THAWING; VACUUM PACKAGING
DED 7 Jul 1999

L94 ANSWER 3 OF 11 FROSTI COPYRIGHT LFRA on STN
AN 465707 FROSTI
TI Detection of Brucella spp in milk by PCR.
AU Serpe L.; Gallo P.; Fidanza N.; Scaramuzzo A.; Fenizia D.
SO Industrie Alimentari, 1998, (February), 37 (367), 191-194 (29 ref.)
DT Journal
LA Italian
SL English; Italian
AB This paper describes the development of a rapid **polymerase** chain reaction (PCR) procedure for the detection of Brucella spp in milk. The procedure involved a simple **freeze** and **thaw** step to release bacterial DNA directly into the food matrix. This eliminated the need to extract and purify DNA from **bacteria**. The template DNA collected from the medium was amplified by using suitable oligonucleotides. The amplification products were detected by agarose gel electrophoresis. The authors considered this method to be suitable for the rapid screening of Brucella spp in milk.
SH ANALYSIS
CT BRUCELLA; DAIRY PRODUCTS; DETECTION; **MICROORGANISMS**; MILK; PCR
DED 24 Apr 1998

L94 ANSWER 4 OF 11 FSTA COPYRIGHT IFIS on STN
AN 1999(09):P1259 FSTA
TI Single-step method for rapid detection of Brucella spp. in soft cheese by gene-specific **polymerase** chain reaction.
AU Serpe, L.; Gallo, P.; Fidanza, N.; Scaramuzzo, A.; Fenizia, D.
CS Istituto Zooprofilattico Sperimentale del Mezzogiorno, Via Salute 2, I-80055 Portici, Italy
SO Journal of Dairy Research, (1999), 66 (2) 313-317, 13 ref.
ISSN: 0022-0299
DT Journal
LA English
AB A PCR method for detection of Brucella in soft cheese is described. Specific primers were used to amplify a 443-bp fragment of Brucella DNA belonging to a gene encoding a 31-kDa outer membrane protein. Lysis of **bacteria** was achieved by **freeze-thaw** cycles, and no DNA extraction or purification was required prior to amplification. Specificity of the primers used for PCR was demonstrated in tests using a number of other organisms genetically related to Brucella or often found in dairy products. Samples of various brands of Mozzarella, Pecorino and Ricotta cheese made from cows' or buffaloes' milk were used in establishing conditions for the technique and method sensitivity. The detection limit for the method was 1.2 x 10.sup.4 cfu/g sample. Repeatability of the method over 3 days was good.
CC P (Milk and Dairy Products)
CT **BACTERIA**; CHEESE VARIETIES; FOOD SAFETY DAIRY PRODUCTS; GENETIC TECHNIQUES; BRUCELLA; MOZZARELLA CHEESE; PCR; PECORINO CHEESE; RICOTTA CHEESE

L94 ANSWER 5 OF 11 FSTA COPYRIGHT IFIS on STN
AN 1998(12):B1525 FSTA
TI Poly(vinyl alcohol) cryogels employed as matrices for cell immobilization. III. Overview of recent research and developments.
AU Lozinsky, V. I.; Plieva, F. M.
CS Russian Acad. of Sci., Inst. of Organoelement Compounds, Vavilov St. 28, 117813 Moscow, Russia
SO Enzyme and Microbial Technology, (1998), 23 (3/4) 227-242, 144 ref.

ISSN: 0141-0229
DT General Review
LA English
AB Utility of poly(vinyl alcohol) (PVA) cryogels, prepared by **freeze -thawing** of concentrate **aqueous polymer** solutions, as microbial cell immobilization matrices are reviewed. Topics considered include: the physicochemical mechanism of PVA cryotropic gelation; general properties of PVA cryogels as carriers of immobilized cells; methods of cells immobilization in PVA gels; and examples of PVA-immobilized cell systems.
CC B (Biotechnology)
CT ALCOHOLS; GELS; IMMOBILIZATION; **MICROORGANISMS**; **PLASTICS**; REVIEWS; POLYVINYL ALCOHOL

L94 ANSWER 6 OF 11 FSTA COPYRIGHT IFIS on STN
AN 1998(03):H0351 FSTA
TI Parameters affecting **polymerase** chain reaction detection of waterborne Cryptosporidium parvum oocysts.
AU Sluter, S. D.; Tzipori, S.; Widmer, G.
CS Correspondence (Reprint) address, G. Widmer, Div. of Infectious Diseases, Dep. of Comparative Med., Tufts Univ. Sch. of Vet. Med., North Grafton, MA 01536, USA. Tel. (508) 839 7944. Tel. (508) 839 7977. E-mail gwidmer(a)opal.tufts.edu
SO Applied Microbiology and Biotechnology, (1997), 48 (3) 325-330, 23 ref.
ISSN: 0175-7598
DT Journal
LA English
AB Cryptosporidium parvum is an enteric protozoan parasite of medical and veterinary importance. Dissemination of environmentally resistant oocysts in surface **water** plays an important role in the epidemiology of cryptospridiosis. Although PCR is a well-established technique and is widely used for detecting **microorganisms**, it is not routinely applied for monitoring waterborne C. parvum. In order to facilitate the application of PCR to the detection of waterborne C. parvum oocysts, a comparison of published PCR protocols was undertaken and different sample-preparation methods tested. The sensitivty of a 1-step PCR method, consisting of 40 temperature cycles, was 10 purified oocysts or fewer than 100 oocysts spiked in raw lake **water**. The detection limit of 2 primer pairs, 1 targeting the ribosomal small subunit and another specific for a C. parvum sequence of unknown function, was approx. 10-fold lower than achieved with a primer pair targeting an oocyst shell protein gene. 3 cycles of **freezing/thawing** were sufficient to expose oocyst DNA and resulted in higher sensitivity than proteinase K digestion, sonication or electroporation. Inhibition of PCR by surface **water** from different local sources was entirely associated with the soluble fraction of lake **water**. Membrane filtration was evaluated in bench-scale experiments as a means of removing lake **water** inhibitors and improving the detection limit of PCR. Using gel and membrane filtration, the molecular size of inhibitory solutes from lake **water** was estimated to less than 27 kDa.
CC H (Alcoholic and Non-Alcoholic Beverages)
CT CRYPTOSPORIDIUM; FOOD SAFETY BEVERAGES; GENETIC TECHNIQUES; **WATER**; PCR

L94 ANSWER 7 OF 11 FSTA COPYRIGHT IFIS on STN
AN 1997(07):B0013 FSTA
TI Poly(vinyl alcohol) cryogels employed as matrices for cell immobilization. II. Entrapped cells resemble porous fillers in their effects on the properties of PVA-cryogel carrier.
AU Lozinsky, V. I.; Zubov, A. L.; Titova, E. F.
CS Inst. of Organoelement Compounds, Russian Acad. of Sci., Vavilov St. 28, 117813 Moscow, Russia
SO Enzyme and Microbial Technology, (1997), 20 (3) 182-190, 37 ref.
ISSN: 0141-0229
DT Journal
LA English
AB Immobilization of microbial cells in poly(vinyl alcohol) cryogels is described. Cryogels were prepared by **freeze-thawing** of concentrate **aqueous** solutions of **polymers** and were used to immobilize cells of Citrobacter intermedius, Zymomonas mobilis, Pseudomonas sp., Saccharomyces cerevisiae (native and modified forms) and also inert materials (titanium dioxide, silica gels and controlled pore glass). Mechanical and structural properties of the gels and gel-cell matrices were determined. [See FSTA (1997) 29 2B12 for part I.]
CC B (Biotechnology)
CT BIOTECHNOLOGY; GELS; IMMOBILIZATION; **MICROORGANISMS**

L94 ANSWER 8 OF 11 FSTA COPYRIGHT IFIS on STN
AN 1994(05):B0001 FSTA

TI Mechanical and kinetic properties of PVA hydrogel immobilizing β-galactosidase.
AU Ariga, O.; Kato, M.; Sano, T.; Nakazawa, Y.; Sano, Y.
CS Dep. of Fine Materials Eng., Fac. of Textile Sci. & Tech., Shinshu Univ., Ueda, Nagano 386, Japan
SO Journal of Fermentation and Bioengineering, (1993), 76 (3) 203-206, 15 ref.
DT Journal
LA English
AB Mechanical and kinetic properties of PVA (polyvinyl alcohol) hydrogel prepared by the iterative **freezing** and **thawing** method were studied in order to assess its applicability as an immobilizing support. PVA hydrogel showed **rubber**-like elasticity and Young's modulus of the gel increased with increasing **polymer** concentration Gel strength improved greatly with the number of **freezing** and **thawing** iterations (n). Thermal treatment of 10% gel with n = 2 for 10 min at 45°C caused a significant loss of strength, but at n = 7 no change in gel strength was observed. A β-galactosidase- producing recombinant E. coli was permeabilized by toluene and kinetic characteristics of immobilized whole cells in the PVA hydrogel were investigated using ONPG (2-nitrophenyl-β-D-galactopyranoside) as a substrate under negligible intraparticle diffusion resistance. Compared with free cells, the Michaelis constant of the β-galactosidase was increased by the entrapment in PVA hydrogel, although that of the free cells decreased with the addition of 3% PVA into the reaction mixture. Kinetic parameters of both free and immobilized cells were not influenced by n until it reached 7, and PVA concentration did not affect kinetic parameters of immobilized cells. The optimal pH of the enzyme was not changed by immobilization, although the activity profile was broader than that of the free cells.
CC B (Biotechnology)
CT **BACTERIA**; BIOTECHNOLOGY; CELLS; ENZYMES; ESCHERICHIA; GALACTOSIDASES; GELS; IMMOBILIZATION; **PLASTICS**; Nb -GALACTOSIDASES; POLYVINYL ALCOHOL

L94 ANSWER 9 OF 11 FSTA COPYRIGHT IFIS on STN
AN 1994(03):C0005 FSTA
TI Efficacy of filter types for detecting Campylobacter jejuni and Campylobacter coli in environmental **water** samples by **polymerase** chain reaction.
AU Oyofo, B. A.; Rollins, D. M.
CS Correspondence (Reprint) address, D. M. Rollins, Enteric Disease Program, Infectious Disease Dep., Naval Med. Res. Inst., Bethesda, MD 20889-5607, USA
SO Applied and Environmental Microbiology, (1993), 59 (12) 4090-4095, 37 ref. ISSN: 0099-2240
DT Journal
LA English
AB A previously developed PCR amplification of a target region in the flaA Campylobacter flagellin gene was evaluated and adapted for use with environmental **water** samples. The ability to detect C. jejuni or C. coli in seeded **water** samples was tested with various filters after concentration and **freeze-thaw** lysis of the bacterial cells. A nonradioactive probe for the amplified flagellin gene fragment detected as little as 1-10 fg of genomic DNA and as few as 10-100 viable C. jejuni cells per 100 ml of **water** filtered onto Fluoropore (Millipore Corp.) filters. No amplification was obtained with cellulose acetate filters, most likely because of binding of the DNA to the filter. Concentration and lysis of target cells on Fluoropore and Durapore (Millipore Corp.) filters allowed PCR to be performed in the same reaction tube without removing the filters. This methodology was then adapted for use with environmental **water** samples. The **water** supply to a broiler chicken production farm was suspected as the source of C. jejuni known to be endemic in grow-out flocks at the farm, despite the inability to culture the organisms by standard methods. The filtration-PCR method detected Campylobacter DNA in more than half of the farm **water** samples examined. Amplified Campylobacter DNA was not detected in small volumes of regional surface **water** samples collected on a single occasion in February. The filtration-PCR amplification method provided a basis for detection of C. jejuni and C. coli in environmental **waters** with a high degree of specificity and sensitivity.
CC C (Hygiene and Toxicology)
CT **BACTERIA**; CAMPYLOBACTER; FOOD SAFETY; GENETIC TECHNIQUES; GENETICS; **WATER**; PCR

L94 ANSWER 10 OF 11 FSTA COPYRIGHT IFIS on STN
AN 1992(03):C0012 FSTA
TI **Polymerase** chain reaction-gene probe detection of **microorganisms** by using filter-concentrated samples.
AU Bej, A. K.; Mahbubani, M. H.; Dicesare, J. L.; Atlas, R. M.

CS Dep. of Microbiol., Univ. of Alabama at Birmingham, Birmingham, AL 35294, USA
SO Applied and Environmental Microbiology, (1991), 57 (12) 3529-3534, 28 ref.
ISSN: 0099-2240
DT Journal
LA English
AB [Environmental monitoring of **microorganisms** to detect potential sources of pathogens for preventative public health and epidemiological purposes requires a high degree of sensitivity.] To detect low levels of **microorganisms** in environmental samples by using PCR-gene probe detection, samples were concentrated by filtration. Fluoropore (Millipore Corp.) filters were compatible with PCR DNA amplification, whereas various other filters including nitrocellulose and cellulose acetate filters inhibited PCR amplification. By concentrating cells on Fluoropore filters and releasing the DNA by **freeze-thaw** cycling, PCR DNA amplification could be performed without removing the filter. Concentration with Fluoropore FHLP and FGLP filters permitted the detection of single cells of **microorganisms** in 100-ml samples by PCR-gene probes. [**Bacteria** tested included Escherichia coli, Shigella flexneri, Salmonella typhimurium, Klebsiella pneumoniae, Citrobacter freundii, Enterobacter spp. and Legionella spp.]
CC C (Hygiene and Toxicology)
CT GENE PROBES; GENETICS; **MICROORGANISMS**

L94 ANSWER 11 OF 11 FSTA COPYRIGHT IFIS on STN
AN 1992(03):B0182 FSTA
TI A novel high density yeast preparation, a method for producing the same, and the use thereof.
IN Suoranta, K.
PA Alko Ltd.; Alko, SF-00100 Helsinki, Finland
SO PCT International Patent Application, (1991)
PI WO 9112315 A1
PRAI FI 1990-804 19900216
DT Patent
LA English
AB A high-density liquid or pasty yeast preparation (>800 g yeast/l, viscosity <200 cP at 20°C), for use as a bakers', brewers', distillers' or wine yeast, is described. It contains 1-20% (w/w) of a polyhydroxy compound (≥1 of propylene glycol, glycerol, nonfermentable mono- or oligosaccharides or sugar alcohols, soluble oligo- or **polymeric** carbohydrates, and polyethylene glycol) and fresh yeast. The preparation has improved levels of activity retention, dissolves instantly, and is easily batched, uniformly suspendable and tolerant of repeated **freezing** and **thawing**.
CC B (Biotechnology)
CT BIOMASS; BIOTECHNOLOGY; DENSITY; **MICROORGANISMS**; PATENTS; YEASTS; INTERNATIONAL; YEAST BIOMASS

L106 ANSWER 1 OF 13 MEDLINE on STN
AN 2004198545 MEDLINE
DN PubMed ID: 15094896
TI Recommendations for the detection of Leptospira in urine by PCR.
AU Lucchesi Paula M A; Arroyo Guillermo H; Etcheverria Analia I; Parma Alberto E; Seijo Alfredo C
CS Laboratorio de Inmunoquimica y Biotecnologia, Facultad de Ciencias Veterinarias, Universidad Nacional del Centro de la Provincia de Buenos Aires, Tandil, Argentina.. paulaluc@vet.unicen.edu.ar
SO Revista da Sociedade Brasileira de Medicina Tropical, (2004 Mar-Apr) 37 (2) 131-4.
Journal code: 7507456. ISSN: 0037-8682.
CY Brazil
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200406
ED Entered STN: 20040420
Last Updated on STN: 20040625
Entered Medline: 20040624
AB In the present study PCR was applied to detect leptospires in human urine. Several approaches for sample processing were evaluated to optimize the detection of leptospires in urine mixed with this **bacterium**. Furthermore, some changes in the composition of the reaction mix were studied. No amplification was observed in acidic urine, therefore neutralization of the sample immediately after collection is strongly recommended. PBS gave better results than Tris or NaOH as neutralizing reagents. **Freezing** and **thawing** of samples before processing yielded negative results. Elimination of epithelial cells, leukocytes and crystals by centrifugation at 3,000 rpm

at room **temperature** increased sensitivity. In addition, both the washing step after collecting leptospires by centrifugation and the inclusion of 0.1% bovine serum albumin in the reaction mix minimized the interference of other inhibitory compounds. These modifications were useful to improve the detection of Leptospira in urine by PCR.

CT Check Tags: Human; Support, Non-U.S. Gov't
Animals
Cattle
Indicators and Reagents
*Leptospira: IP, isolation & purification
*Leptospirosis: UR, urine
***Polymerase Chain Reaction: MT, methods**
Sensitivity and Specificity
*Specimen Handling: MT, methods
Specimen Handling: ST, standards

CN 0 (Indicators and Reagents)

L106 ANSWER 2 OF 13 MEDLINE on STN
AN 2004194229 IN-PROCESS
DN PubMed ID: 15094089
TI Inorganic ions in cold-hardiness.
AU Zachariassen Karl Erik; Kristiansen Erlend; Pedersen Sindre Andre
CS Laboratory of Ecophysiology and Toxicology, Department of Biology, Norwegian University of Science and Technology, 7491 Trondheim, Norway.. karl.erik.zachariassen@chembio.ntnu.no
SO Cryobiology, (2004 Apr) 48 (2) 126-33.
Journal code: 0006252. ISSN: 0011-2240.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS IN-PROCESS; NONINDEXED; Priority Journals
ED Entered STN: 20040420
Last Updated on STN: 20040522
AB Cold exposure and freezing may affect ion distribution in several ways and reduce physiologically important ionic gradients. Both freeze-avoiding and freeze-tolerant **organisms** have developed mechanisms to handle this stress. Supercooled insects seem to be able to maintain their ionic gradients even at temperatures far below zero. When freeze-tolerant insects freeze, ions diffuse down their concentration gradients across the cell membranes and reach electrochemical equilibrium. They quickly reverse this transmembrane diffusion when they are **thawed**. Trace metals may affect mechanisms for cold-hardening in different ways and reduce cold-hardiness. Freezing may give rise to toxic concentrations of metal ions, and freeze-tolerant **organisms** probably need to inactivate toxic trace metals. **Ice nucleating** agents may be important in this context.

L106 ANSWER 3 OF 13 MEDLINE on STN
AN 2003311066 MEDLINE
DN PubMed ID: 12838605
TI Water or ice?--the challenge for invertebrate cold survival.
AU Block William
SO Science progress, (2003) 86 (Pt 1-2) 77-101. Ref: 67
Journal code: 0411361. ISSN: 0036-8504.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200309
ED Entered STN: 20030704
Last Updated on STN: 20030918
Entered Medline: 20030917
AB The ecophysiology of cold tolerance in many terrestrial invertebrate animals is based on water and its activity at low temperatures, affecting cell, tissue and whole **organism** functions. The normal body water content of invertebrates varies from 40 to 90% of their live weight, which is influenced by water in their immediate environment, especially in species with a water vapour permeable cuticle. Water gain from, or loss to, the surrounding atmosphere may affect animal survival, but under sub-zero conditions body water status becomes more critical for overwinter survival in many species. Water content influences the supercooling capacity of many insects and other arthropods. Trehalose is known to maintain membrane integrity during desiccation stress in

several taxa. Dehydration affects potential **ice nucleators** by reducing or masking their activity and a desiccation protection strategy has been detected in some species. When water crystallises to ice in an animal it greatly influences the physiology of nearby cells, even if the cells remain unfrozen. A proportion of body water remains unfrozen in many cold hardened invertebrates when they are frozen, which allows basal metabolism to continue at a low level and aids recovery to normal function when **thawing** occurs. About 22% of total body water remains unfrozen from calculations using differential scanning calorimetry (compared with ca 19% in food materials). The ratio of unfrozen to frozen water components in insects is 1:4 (1:6 for foods). Such unfrozen water may aid recovery of freezing tolerant species after a freezing exposure. Rapid changes in cold hardiness of some arthropods may be brought about by subtle shifts in body water management. It is recognised that cold tolerance strategies of many invertebrates are related to desiccation resistance, and possibly to mechanisms inherent in insect diapause, but the role of water is fundamental to them all. Detailed experimental studies are needed to provide information which will allow a more complete and coherent understanding of the behaviour of water in biological systems and aid the cryopreservation of a wide range of biological material.

CT Check Tags: Support, Non-U.S. Gov't
Animals
*Arthropods: PH, physiology
Body Water: CH, chemistry
*Body Water: PH, physiology
Calorimetry
*Cold
Dehydration: ME, metabolism
*Ice

L106 ANSWER 4 OF 13 MEDLINE on STN
AN 2002023045 MEDLINE
DN PubMed ID: 11464745
TI Synergistic effect of solar radiation and solar heating to disinfect drinking water sources.
AU Rijal G K; Fujioka R S
CS Water Resources Research Center and Dept of Microbiology, University of Hawaii, 2540 Dole Street, Holmes Hall 283, Honolulu, Hawaii 96822, USA.. geeta@hawaii.edu
SO Water science and technology : a journal of the International Association on Water Pollution Research, (2001) 43 (12) 155-62.
Journal code: 9879497. ISSN: 0273-1223.
CY England: United Kingdom
DT (EVALUATION STUDIES)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200112
ED Entered STN: 20020121
Last Updated on STN: 20020121
Entered Medline: 20011204

AB Waterborne diseases are still common in developing countries as drinking water sources are contaminated and feasible means to reliably treat and disinfect these waters are not available. Many of these developing countries are in the tropical regions of the world where sunlight is plentiful. The objective of this study was to evaluate the effectiveness of combining solar radiation and solar heating to disinfect contaminated water using a modified Family Sol*Saver System (FSP). The non-UV transmittable cover sheet of the former FSP system was replaced with an UV transmittable **plastic** cover sheet to enable more wavelengths of sunlight to treat the water. Disinfection efficiency of both systems was evaluated based on reduction of the natural populations of faecal coliform, E. coli, enterococci, C. perfringens, total heterotrophic **bacteria**, hydrogen sulphide producing **bacteria** and FRNA virus. The results showed that under sunny and partly sunny conditions, water was heated to **critical temperature** (60 degrees C) in both the FSP systems inactivating more than 3 log (99.9%) of the concentrations of faecal coliform and E. coli to undetectable levels of < 1 CFU/100 mL within 2-5 h exposure to sunlight. However, under cloudy conditions, the two FSP systems did not reduce the concentrations of faecal **indicator bacteria** to levels of < 1 CFU/100 mL. Nonetheless, sufficient evidence was obtained to show that UV radiation of sunlight plus heat worked synergistically to enhance the inactivation of faecal indicator **bacteria**. The relative log removal of indicator **microorganism** in the FSP treated water was total heterotrophic **bacteria** < C. perfringens < F RNA virus < enterococci < E. coli < faecal coliform. In summary, time of exposure to heat and radiation effects of sunlight were important in disinfecting water by solar units. The data indicated that direct radiation of sunlight worked synergistically with solar heating of the water to disinfect the water. Thus, effective disinfection was observed even when the water **temperature** did not reach 60 degrees C.

Finally, the hydrogen sulphide test is a simple and reliable test that householders can use to determine whether their water had been sufficiently disinfected.

CT Biological Markers: AN, analysis
*Developing Countries
*Disinfectants
*Enterobacteriaceae
Feces
Heat
Hydrogen Sulfide: AN, analysis
Models, Theoretical
*Solar Energy
*Sunlight
*Water Microbiology
*Water Purification: MT, methods
*Water Supply
RN 7783-06-4 (Hydrogen Sulfide)
CN 0 (Biological Markers); 0 (Disinfectants)

L106 ANSWER 5 OF 13 MEDLINE on STN
AN 2001315513 MEDLINE
DN PubMed ID: 11388469
TI A novel cryoprotective protein (CRP) with high activity from the **ice-nucleating bacterium**, Pantoea agglomerans IFO12686.
AU Koda N; Asaeda T; Yamade K; Kawahara H; Obata H
CS Department of Biotechnology, Faculty of Engineering, and High Technology Research Center, Kansai University, Suita-shi, Osaka, Japan..
gm9d605@ipcku.kansai-u.ac.jp
SO Bioscience, biotechnology, and biochemistry, (2001 Apr) 65 (4) 888-94.
Journal code: 9205717. ISSN: 0916-8451.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200110
ED Entered STN: 20011029
Last Updated on STN: 20011029
Entered Medline: 20011025
AB The **ice-nucleating bacterium**, Pantoea agglomerans IFO12686, induces the cryoprotective protein (CRP) by cold acclimation at 12 degrees C. The CRP was purified to apparent homogeneity by various chromatographies. We found that the purified CRP was a monomer of approximately 29,000 according to gel filtration chromatography and SDS-PAGE, and was a heat-stable protein. The CRP could protect freeze-labile enzymes, lactate dehydrogenase (LDH), alcohol dehydrogenase (ADH) and isocitrate dehydrogenase (iCDH), against **freezing- thawing** denaturation. The activity of the CRP was about 3.5 x 10(4) times more effective than bovine serum albumin (BSA) and 2 x 10(6) times than COR26 from the **ice-nucleating bacterium** Pseudomonas fluorescens KUIN-1. We confirmed that the CRP was a novel protein, as judged by the a different molecule mass from the already-known cryoprotectants, and has an extremely high cryoprotective activity.
CT Ammonium Sulfate: PD, pharmacology
*Bacterial Proteins: IP, isolation & purification
Bacterial Proteins: PD, pharmacology
Chromatography, Gel
Chromatography, Ion Exchange
*Cryoprotective Agents: IP, isolation & purification
Cryoprotective Agents: PD, pharmacology
Electrophoresis, Polyacrylamide Gel
Heat
Hydrogen-Ion Concentration
L-Lactate Dehydrogenase: CH, chemistry
L-Lactate Dehydrogenase: ME, metabolism
Molecular Weight
*Pantoea: CH, chemistry
*Protein Denaturation: DE, drug effects
Streptomycin: PD, pharmacology
RN 57-92-1 (Streptomycin); 7783-20-2 (Ammonium Sulfate)
CN 0 (Bacterial Proteins); 0 (Cryoprotective Agents); EC 1.1.1.27 (L-Lactate Dehydrogenase)

L106 ANSWER 6 OF 13 MEDLINE on STN

AN 1999372487 MEDLINE
DN PubMed ID: 10445315
TI Evaluation of different methods for the extraction of DNA from fungal conidia by quantitative competitive PCR analysis.
AU Haugland R A; Heckman J L; Wymer L J
CS National Exposure Research Laboratory, U.S. Environmental Protection Agency, Cincinnati, OH 45268, USA.. haugland.rich@epa.gov
SO Journal of microbiological methods, (1999 Aug) 37 (2) 165-76.
Journal code: 8306883. ISSN: 0167-7012.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199909
ED Entered STN: 19990925
Last Updated on STN: 19990925
Entered Medline: 19990914
AB Five different DNA extraction methods were evaluated for their effectiveness in recovering PCR templates from the conidia of a series of fungal species often encountered in indoor air. The test **organisms** were Aspergillus versicolor, Penicillium chrysogenum, Stachybotrys chartarum, Cladosporium herbarum and Alternaria alternata. The extraction methods differed in their use of different cell lysis procedures. These included grinding in liquid nitrogen, grinding at ambient **temperature**, sonication, glass bead milling and **freeze-thawing**. DNA purification and recovery from the lysates were performed using a commercially available system based on the selective binding of nucleic acids to glass milk. A simple quantitative competitive **polymerase** chain reaction (QC-PCR) assay was developed for use in determining copy numbers of the internal transcribed spacer (ITS) regions of the ribosomal RNA operon (rDNA) in the total DNA extracts. These quantitative analyses demonstrated that the method using glass bead milling was most effective in recovering PCR templates from each of the different types of conidia both in terms of absolute copy numbers recovered and also in terms of lowest extract to extract variability. Calculations of average template copy yield per conidium in this study indicate that the bead milling method is sufficient to support the detection of less than ten conidia of each of the different **organisms** in a PCR assay.
CT Check Tags: Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.
*DNA, Fungal: IP, isolation & purification
DNA, Ribosomal: IP, isolation & purification
Mitosporic Fungi: GE, genetics
*Mitosporic Fungi: IP, isolation & purification
***Polymerase Chain Reaction: MT, methods**
CN 0 (DNA, Fungal); 0 (DNA, Ribosomal)

L106 ANSWER 7 OF 13 MEDLINE on STN
AN 1998312999 MEDLINE
DN PubMed ID: 9650979
TI Effects of various handling and storage conditions on stability of Treponema pallidum DNA in cerebrospinal fluid.
AU Villanueva A V; Podzorski R P; Reyes M P
CS Department of Internal Medicine, Wayne State University, Detroit, Michigan 48201-1998, USA.
SO Journal of clinical microbiology, (1998 Jul) 36 (7) 2117-9.
Journal code: 7505564. ISSN: 0095-1137.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199809
ED Entered STN: 19981008
Last Updated on STN: 19981008
Entered Medline: 19980928
AB Treponema pallidum DNA from even small numbers of **organisms** was detectable in cerebrospinal fluid (CSF) stored at room **temperature** or at 4 degrees C for several hours and in CSF subjected to three **freeze-thaw** cycles. These results suggest that negative PCR results for T. pallidum from patients diagnosed with T. pallidum invasion of the central nervous system are probably not due to the loss of target DNA prior to testing.
CT Check Tags: Human
Blotting, Southern
*Cerebrospinal Fluid: MI, microbiology
*DNA, Bacterial: CF, cerebrospinal fluid
Freezing

*Neurosyphilis: MI, microbiology
Polymerase Chain Reaction: MT, methods
Sensitivity and Specificity
*Specimen Handling
*Treponema pallidum: IP, isolation & purification
CN 0 (DNA, Bacterial)

L106 ANSWER 8 OF 13 MEDLINE on STN
AN 1998013990 MEDLINE
DN PubMed ID: 9352675
TI Parameters affecting **polymerase** chain reaction detection of waterborne Cryptosporidium parvum oocysts.
AU Sluter S D; Tzipori S; Widmer G
CS Department of Biology and Biotechnology, Worcester Polytechnic Institute, MA 01609, USA.
NC UO1AI3384 (NIAID)
SO Applied microbiology and biotechnology, (1997 Sep) 48 (3) 325-30.
Journal code: 8406612. ISSN: 0175-7598.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Biotechnology
EM 199711
ED Entered STN: 19971224
Last Updated on STN: 19990129
Entered Medline: 19971120
AB Cryptosporidium parvum is an enteric protozoan parasite of medical and veterinary importance. Dissemination of environmentally resistant oocysts in surface water plays an important role in the epidemiology of cryptospridiosis. Although the **polymerase** chain reaction (PCR) is a well-established technique and is widely used for detecting **microorganisms**, it is not routinely applied for monitoring waterborne C. parvum. In order to facilitate the application of PCR to the detection of waterborne C. parvum oocysts, a comparison of published PCR protocols was undertaken and different sample-preparation methods tested. The sensitivity of a one-step PCR method, consisting of 40 **temperature** cycles, was 10 purified oocysts or fewer than 100 oocysts spiked in raw lake water. The detection limit of two primer pairs, one targeting the ribosomal small subunit and another specific for a C. parvum sequence of unknown function, was approximately ten-fold lower than achieved with a primer pair targeting an oocyst shell protein gene. Three cycles of **freezing/thawing** were sufficient to expose oocyst DNA and resulted in higher sensitivity than proteinase K digestion, sonication or electroporation. Inhibition of PCR by surface water from different local sources was entirely associated with the soluble fraction of lake water. Membrane filtration was evaluated in bench-scale experiments as a means of removing lake water inhibitors and improving the detection limit of PCR. Using gel and membrane filtration, the molecular size of inhibitory solutes from lake water was estimated to less than 27 kDa.
CT Check Tags: Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.
Animals
*Cryptosporidium parvum: IP, isolation & purification
***Polymerase Chain Reaction**
*Water: PS, parasitology
RN 7732-18-5 (Water)

L106 ANSWER 9 OF 13 MEDLINE on STN
AN 97464420 MEDLINE
DN PubMed ID: 9324241
TI Stability of CII is a key element in the cold stress response of bacteriophage lambda infection.
AU Obuchowski M; Shotland Y; Koby S; Giladi H; Gabig M; Wegrzyn G; Oppenheim A B
CS Department of Molecular Biology, University of Gdansk, Kladki, Poland.
SO Journal of bacteriology, (1997 Oct) 179 (19) 5987-91.
Journal code: 2985120R. ISSN: 0021-9193.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199710
ED Entered STN: 19971105
Last Updated on STN: 19980206
Entered Medline: 19971023

AB **Bacteria** are known to adapt to environmental changes such as **temperature** fluctuations. It was found that **temperature** affects the lysis-lysogeny decision of lambda such that at body **temperature** (37 degrees C) the phage can select between the lytic and lysogenic pathways, while at ambient **temperature** (20 degrees C) the lytic pathway is blocked. This **temperature**-dependent discriminatory developmental pathway is governed mainly by the phage CII activity as a transcriptional activator. Mutations in cII or point mutations at the pRE promoter lead to an over-1,000-fold increase in mature-phage production at low **temperature** while mutations in cI cause a smaller increase in phage production. Interference with CII activity can restore lytic growth at low **temperature**. We found that at low **temperature** the stability of CII in vivo is greatly increased. It was also found that phage DNA replication is blocked at 20 degrees C but can be restored by supplying O and P in trans. It is proposed that CII hampers transcription of the rightward pR promoter, thus reducing the levels of the lambda O and P proteins, which are necessary for phage DNA replication. Our results implicate CII itself or host proteins affecting CII stability as a "molecular **thermometer**".

CT Check Tags: Support, Non-U.S. Gov't
Bacteriophage lambda: GE, genetics
*Bacteriophage lambda: PH, physiology
Cold
DNA Replication
DNA-Directed RNA Polymerases: GE, genetics
DNA-Directed RNA Polymerases: ME, metabolism
Lysogeny
Mutation
Promoter Regions (Genetics)
Temperature
Transcription Factors: GE, genetics
*Transcription Factors: PH, physiology
Transcription, Genetic
Viral Proteins: PH, physiology
Virus Replication

CN 0 (DNA replication complex protein, Bacteriophage lambda); 0 (O protein, Bacteriophage lambda); 0 (Transcription Factors); 0 (Viral Proteins); 0 (bacteriophage lambda protein cII); EC 2.7.7.6 (DNA-Directed RNA **Polymerases**)

L106 ANSWER 10 OF 13 MEDLINE on STN
AN 97095570 MEDLINE
DN PubMed ID: 9035978
TI [The epidemiology of helicobacteriosis in humans; studies of the survival capacity of the microbe in food].
Zur Epidemiologie der Helicobacteriose des Menschen; Untersuchungen zur Uberlebensfahigkeit des Erregers in Lebensmitteln.
AU Bohmler G; Gerwert J; Scupin E; Sinell H J
CS Tierarztlichen Institut, Georg-August-Universitat Gottingen.
SO DTW. Deutsche tierarztliche Wochenschrift, (1996 Oct) 103 (10) 438-43.
Journal code: 7706565. ISSN: 0341-6593.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA German
FS Priority Journals
EM 199702
ED Entered STN: 19970306
Last Updated on STN: 19970306
Entered Medline: 19970225

AB In man suffering from diseases of the stomach and the duodenum (gastritis, ulcus, enteritis, neoplasms), Helicobacter pylori (H..pylori) is frequently detected in the mucous membrane of the stomach. Up to now the spread of this agent is not quite clear. Since the direct transmission in humans can be taken for granted, the following study was to find out whether and for how long the agent mentioned above is able to survive in selected food and whether an infection of the consumer by these contaminated food is possible. 376 samples of secretions from the udder of healthy cows and those with mastitis where tested for the presence of H. pylori along with 100 stomachs of chicken from different flocks. In no case H. pylori could be detected. H. pylori was inoculated in high concentrations into milk and some milk-products. From cooled milk samples the agent could still be reisolated after six days in a density up to 10(3) CFU/ml of milk. At room-**temperature** or 37 degrees C resp. the pathogen could be detected in milk for three to four days only. In yoghurt the agent kept viable for three hours only, whereas in kefir for 24 hours. Mean survival time of then hours was found in pH-neutral curd cheese. The incubation of H.pylori in sterile drip from chicken and in physiologic saline resulted in maximal survival time of at least 48 hours at room **temperature**. But in H.pylori-broth the number of **microorganisms** had

dropped below the limit of detectability only after 72 hours. At refrigerator-**temperature** (7 degrees C) H. pylori could still be detected within these three media after 72 hours in high concentrations. In drip from chicken kept at-20 degrees C before **thawing** H. pylori showed a considerable survival time. After four weeks its number had only dropped by one to two log cycles, whereas in saline and in broth the agent could not be detected anymore after one week at the most. Experiments concerning tenacity showed: On culture-media with different pH-values the growth-optimum of H. pylori was between pH 6.1 and 7.3 H. pylori was suspended in melting water from chicken and brought in thin layers onto wooden board, **plastic** and ceramic tiles. The **bacterium** could be recultured from these surfaces only as long as these were moist. At room-**temperature** the **bacterium** could not be detected anymore on wood after 30 minutes, on **plastic** or ceramic tiles after 90 minutes. At refrigerator- **temperature** the administered suspensions dried more slowly, so that H. pylori survived longer, but it still could not be isolated anymore on wood after 240 minutes, on **plastic** or ceramic tiles after 300 minutes. The decimal reduction-time for H. pylori suspensions in broth were. 72 sec. at +50 degrees C 43 sec. at +52 degrees C 20 sec. at +55 degrees C 10 sec. at +57 degrees C 4 sec. at +60 degrees C from which data z = 7.9 +/- 0.01 degrees C can be calculated. From these experiments on can conclude, that in all probability fresh milk and chicken do not contain H. pylori and thus do not represent a source of infection for man. After contamination of slaughtered chicken within the abattoir or from milk and milk-products within dairy industry by insufficient hygiene-management of infected personnel it can not be excluded, that H. pylori gets into households by these foods. An infection of the consumer by this route is not very likely, but can not be excluded with complete certainly.

CT Check Tags: Human
Animals
Cattle
Chickens
Dairy Products: MI, microbiology
English Abstract
*Food Microbiology
*Helicobacter Infections: ET, etiology
*Helicobacter pylori: IP, isolation & purification
*Meat: MI, microbiology
*Milk: MI, microbiology

L106 ANSWER 11 OF 13 MEDLINE on STN
AN 96318419 MEDLINE
DN PubMed ID: 8736122
TI Biochemistry below 0 degrees C: nature's frozen vertebrates.
AU Storey K B; Mosser D D; Douglas D N; Grundy J E; Storey J M
CS Department of Biology, Carleton University, Ottawa, Ontario, Canada.
SO Brazilian journal of medical and biological research = Revista brasileira de pesquisas medicas e biologicas / Sociedade Brasileira de Biofisica ... [et al.], (1996 Mar) 29 (3) 283-307. Ref: 92
Journal code: 8112917. ISSN: 0100-879X.
CY Brazil
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199701
ED Entered STN: 19970128
Last Updated on STN: 19980206
Entered Medline: 19970107

AB Although alien to man, the ability to endure the freezing of extracellular body fluids during the winter has developed in several species of terrestrially hibernating frogs and turtles as well as in many species of insects and other invertebrates. Wood frogs, for example, can endure freezing for at least 2 weeks with no breathing, no heart beat or blood circulation, and with up to 65% of their total body water as ice. Our studies are providing a comprehensive view of the requirements for natural freezing survival and of the physical and metabolic protection that must be offered for effective cryopreservation of vertebrate organs. Molecular mechanisms of natural freeze tolerance in lower vertebrates include: 1) control over ice crystal growth in plasma by **ice nucleating** proteins, 2) the accumulation of low molecular weight cryoprotectants to minimize intracellular dehydration and stabilize macromolecular components, and 3) good ischemia tolerance by all organs that may include metabolic arrest mechanisms to reduce organ energy requirements while frozen. Cryomicroscopy of tissue slices and magnetic resonance imaging (MRI) of whole animals is revealing the natural mode of ice propagation through an **organism**. MRI has also revealed that **thawing** is non-uniform; core organs (with high cryoprotectant levels) melt first, facilitating the early resumption of heart beat and blood circulation. Studies of the production and actions of the natural cryoprotectant, glucose, in frogs have shown its importance in

maintaining a critical minimum cell volume in frozen organs and new work on the metabolic effects of whole body dehydration in 3 species of frogs has indicated that adaptations supporting freeze tolerance grew out of mechanisms that deal with desiccation resistance in amphibians. Studies of the regulation of cryoprotectant glucose synthesis by wood frog liver have shown the role of protein kinases and of alpha and beta adrenergic receptors in regulating the glycemic response, and of changes in membrane glucose transporter proteins to facilitate cryoprotectant distribution.

CT Check Tags: Support, Non-U.S. Gov't
Adenosine Triphosphate: ME, metabolism
Animals
Body Temperature: PH, physiology
*Cryopreservation
*Extracellular Space: PH, physiology
*Freezing
*Liver: UL, ultrastructure
*Magnetic Resonance Imaging
Phosphorylases: ME, metabolism
Ranidae: ME, metabolism
Turtles: ME, metabolism

RN 56-65-5 (Adenosine Triphosphate)

CN EC 2.4.1.- (Phosphorylases)

L106 ANSWER 12 OF 13 MEDLINE on STN

AN 95270602 MEDLINE

DN PubMed ID: 7751294

TI Purification and characterization of an extracellular levansucrase from Pseudomonas syringae pv. phaseolicola.

AU Hettwer U; Gross M; Rudolph K

CS Institut fur Pflanzenpathologie und Pflanzenschutz, Universitat Gottingen, Germany.

SO Journal of bacteriology, (1995 May) 177 (10) 2834-9.
Journal code: 2985120R. ISSN: 0021-9193.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199506

ED Entered STN: 19950629
Last Updated on STN: 19980206
Entered Medline: 19950620

AB Levansucrase (EC 2.4.1.10), an exoenzyme of Pseudomonas syringae pv. phaseolicola, was purified to homogeneity from the cell supernatant by chromatography on TMAE-Fraktogel and butyl-Fraktogel. The enzyme has molecular masses of 45 kDa under denaturing conditions and 68 kDa during gel filtration of the native form. In isoelectric focusing, active bands appeared at pH 3.55 and 3.6. Maximum sucrose cleaving activities were measured at pH 5.8 to 6.6 and 60 degrees C. The enzyme was highly tolerant to denaturing agents, proteases, and repeated **freezing** and **thawing**. The molecular weight of the produced levan depended on **temperature**, salinity, and sucrose concentration. The enzyme had levan-degrading activity and did not accept raffinose as a substrate. Comparison of the N-terminal amino acid sequence with the predicted amino acid sequence of levansucrases from Erwinia amylovora and Zymomonas mobilis showed 88 and 69% similarity, respectively, in amino acids 5 to 20. No similarity could be detected to levansucrases of gram-positive **bacteria** in the first 20 amino acids. By comparison of all levansucrases which have been sequenced to date, the enzyme seems to be conserved in the gram-negative **bacteria**. The rheological behavior of the product levan prompted a new assessment of the enzyme's role in pathogenesis. Depending on formation conditions, levan solutions exclude other **polymer** solutions. This behavior supports the presumption that the levansucrase is important in the early phase of infection by creating a separating layer between **bacteria** and plant cell wall to prevent the pathogen from recognition.

CT Check Tags: Comparative Study; Support, Non-U.S. Gov't
Amino Acid Sequence
Fructans: ME, metabolism
Heat
Hexosyltransferases: AI, antagonists & inhibitors
*Hexosyltransferases: IP, isolation & purification
Hexosyltransferases: ME, metabolism
Hydrogen-Ion Concentration
Isoelectric Focusing
Metals: PD, pharmacology
Molecular Sequence Data

*Pseudomonas: EN, enzymology
Pseudomonas: PY, pathogenicity
Rheology
Sequence Analysis
Sequence Homology, Amino Acid
Substrate Specificity
Sucrose: ME, metabolism
Virulence
RN 57-50-1 (Sucrose)
CN 0 (Fructans); 0 (Metals); EC 2.4.1.- (Hexosyltransferases); EC 2.4.1.10 (levansucrase)

L106 ANSWER 13 OF 13 MEDLINE on STN
AN 91251752 MEDLINE
DN PubMed ID: 2041468
TI Molecular aspects of microbial **ice nucleation.**
AU Warren G; Wolber P
CS DNA Plant Technology Corporation, Oakland, California 94608.
SO Molecular microbiology, (1991 Feb) 5 (2) 239-43. Ref: 31
Journal code: 8712028. ISSN: 0950-382X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 199107
ED Entered STN: 19910728
Last Updated on STN: 19910728
Entered Medline: 19910705
AB Certain **organisms** nucleate the crystallization of ice. This requires a small volume of water to be induced, probably by lattice-matching with a solid template, to form an 'ice embryo'--a region sharing at least some of the characteristics of macroscopic ice. It is of particular interest to understand the structure and function of biological structures capable of lattice-matching (or otherwise inducing a quasi-crystalline state). Some strains of the Gram-negative eubacterial genera Erwinia, Pseudomonas, and Xanthomonas, and the mycobionts of certain lichens, display **ice-nucleating** activity. In **bacteria**, the activity is conferred by a protein that contains three nested periodicities of repetition, which probably reflects a hierarchy of three motifs of structural repetition. Thus the tertiary structure of the **ice-nucleation** protein is likely to be regular, consistent with the expectation of its forming a template for lattice-matching. Even within a clonal culture, the nucleating sites formed by **bacteria** and lichens vary considerably in the **threshold temperatures** at which they display activity; this indicates wide variations in either the size of the template, or its structural regularity, or both. However, **ice-nucleating** sites of lichen and bacterial origin are clearly differentiated by their sensitivities to experimental treatments.
CT Amino Acid Sequence
*Bacterial Physiology
Crystallization
*Ice
*Lichens: PH, physiology
Molecular Sequence Data
Temperature
Templates, Genetic

L111 ANSWER 1 OF 2 MEDLINE on STN
AN 74000036 MEDLINE
DN PubMed ID: 4733224
TI Ionic polymerisation as a means of end-point, indication in non-aqueous **thermometric** titrimetry. IV. The determination of catecholamines.
AU Greenhow E J; Spencer L E
SO Analyst, (1973 Jul) 98 (168) 485-92.
Journal code: 0372652. ISSN: 0003-2654.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197311
ED Entered STN: 19900310

Last Updated on STN: 19900310
Entered Medline: 19731130
CT *Catecholamines: AN, analysis
Dihydroxyphenylalanine: AN, analysis
Dopamine: AN, analysis
Epinephrine: AN, analysis
Indicators and Reagents
*Ions
Norepinephrine: AN, analysis
***Polymers**
Solvents
***Temperature**
RN 51-41-2 (Norepinephrine); 51-43-4 (Epinephrine); 51-61-6 (Dopamine); 63-84-3 (Dihydroxyphenylalanine)
CN 0 (Catecholamines); 0 (**Indicators** and Reagents); 0 (Ions); 0 (**Polymers**); 0 (Solvents)

L111 ANSWER 2 OF 2 MEDLINE on STN
AN 73150897 MEDLINE
DN PubMed ID: 4695328
TI Ionic polymerisation as a means of end-point indication in non-aqueous **thermometric** titrimetry. 3. The determination of alkaloids and alkaloidal salts.
AU Greenhow E J; Spencer L E
SO Analyst, (1973 Feb) 98 (163) 98-102.
Journal code: 0372652. ISSN: 0003-2654.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197306
ED Entered STN: 19900310
Last Updated on STN: 19900310
Entered Medline: 19730606
CT *Alkaloids: AN, analysis
Atropine: AN, analysis
Caffeine: AN, analysis
Codeine: AN, analysis
Ephedrine: AN, analysis
Indicators and Reagents
Methods
Microchemistry
Nicotine: AN, analysis
Papaverine: AN, analysis
***Polymers**
Quinine: AN, analysis
Salts: AN, analysis
Strychnine: AN, analysis
Temperature
Theophylline: AN, analysis
RN 130-95-0 (Quinine); 299-42-3 (Ephedrine); 51-55-8 (Atropine); 54-11-5 (Nicotine); 57-24-9 (Strychnine); 58-08-2 (Caffeine); 58-55-9 (Theophylline); 58-74-2 (Papaverine); 76-57-3 (Codeine)
CN 0 (Alkaloids); 0 (**Indicators** and Reagents); 0 (**Polymers**); 0 (Salts)

L133 ANSWER 1 OF 1 CABA COPYRIGHT CABI on STN
AN 95:22304 CABA
DN 19941612563
TI Molecular mechanisms of **freeze-thaw** injury and cold acclimation in herbaceous plants: merging physiological and genetic approaches
AU Palta, J. P.; Weiss, L. S.; Harbage, J. F.; Bamberg, J. B.; Stone, J. M.; Jackson, M. B. [EDITOR]; Black, C. R. [EDITOR]
CS Department of Horticulture, University of Wisconsin, Madison, WI 73706, USA.
SO Interacting stresses on plants in a changing climate, (1993) pp. 659-680. NATO ASI Series. Series I: Global Environmental Change, Vol. 16. 64 ref.

Publisher: Springer-Verlag. Berlin
Meeting Info.: Interacting stresses on plants in a changing climate.
ISBN: 3-540-57263-5
CY Germany, Federal Republic of
DT Conference Article
LA English
ED Entered STN: 19950201
Last Updated on STN: 19950201
AB In nature several factors, including **ice nucleation**, temperature, **freezing** (cooling) rate, duration of exposure to ice, **thawing** rate and post-**thaw** conditions, contribute to the degree of injury caused by frost episodes. Results of experiments showed that an increase in cooling rate from 1 to 4[deg]C h-1 made the difference between survival and death. In the **critical temperature** range where injury occurs, the **thaw** rate influenced the degree and type of injury. The plasma membrane was a key site of alteration by **freeze-thaw** stress and cold acclimation. Important properties in this respect included membrane lipids and proteins, and the concentration of membrane and cytosolic calcium. Plasma membrane adenosinetriphosphatase (ATPase) appeared to be an important site of cellular response to **freeze-thaw** stress and an alteration in the function of this enzyme was one of the earliest manifestations of stress. These alterations could be mediated by perturbation of cellular Ca2+ and/or changes in membrane lipid composition. These results provide an insight into the mechanisms of incipient injury and recovery following injury. To understand the genetics of **freezing** stress resistance, crosses were made between Solanum commersonii, which is **freezing** tolerant and able to cold-acclimate (double its **freezing** tolerance in 10 days at chilling temperatures), and S. cardiophyllum, which is **freezing** sensitive and unable to cold-acclimate. Analysis of the backcross progenies showed that non-acclimated **freezing** tolerance and acclimation ability are genetically distinct traits that segregate independently. Generation mean analysis revealed that cold-acclimation ability can be explained by a simple additive-dominance model. The results **indicated** that the ability to cold-acclimate is genetically relatively simple and should be amenable to selection at the diploid level. Lipid analysis of purified plasma membrane preparations obtained from the parents, F1s and backcross progenies showed that the relative increase in linoleic acid (18:2) in the plasma membrane was highly correlated to cold acclimation ability. An increase in 18:2 co-segregated with the capacity to acclimate. The results suggest that specific membrane lipids play a role in the genetic ability of the plant material to cold-acclimate.
CC FF020 Plant Breeding and Genetics; FF060 Plant Physiology and Biochemistry; FF900 Environmental Tolerance of Plants
SC HO; CR; CA; PL; OP; 7K; 7Q
BT Solanum; Solanaceae; Solanales; dicotyledons; angiosperms; Spermatophyta; plants
CT cold stress; potatoes; wild relatives; cell membranes; temperature; adenosinetriphosphatase; lipids; injuries; linoleic acid; interspecific hybridization; genetics; cold resistance; breeding; reviews; root crops
ST Interacting stresses on plants in a changing climate
RN 9000-83-3; 60-33-3
ORGN plants; Solanum commersonii; Solanum cardiophyllum; Solanum tuberosum

L138 ANSWER 1 OF 9 CABA COPYRIGHT CABI on STN
AN 2002:135658 CABA
DN 20023095357
TI **Thaw** effects on cold-hardiness parameters in yellow birch
AU Zhu, X. B.; Cox, R. M.; Bourque, C. P. A.; Arp, P. A.
CS Natural Resources Canada, Canadian Forest Service, Atlantic Forestry Centre, Fredericton, NB E3B 5P7, Canada. rcox@nrcan.gc.ca
SO Canadian Journal of Botany, (2002) Vol. 80, No. 4, pp. 390-398. 44 ref.
Publisher: National Research Council of Canada. Ottawa
ISSN: 0008-4026
CY Canada
DT Journal
LA English
SL French
ED Entered STN: 20020802
Last Updated on STN: 20030516
AB One-year-old, cold-hardened, container-grown yellow birch (Betula alleghaniensis) seedlings collected from Prince Edward Island, were exposed to cold treatments after being pretreated with a simulated winter **thaw**. **Freezing** injury to roots and shoots was assessed by relative electrolyte leakage and triphenyltetrazolium chloride reduction. Growth characteristics were also determined after 60 days under greenhouse conditions. Relative electrolyte leakage and triphenyltetrazolium chloride reduction measurements showed that roots became increasingly damaged with decreasing cold-treatment **temperatures**. However, plants pretreated with **thaws** showed significantly lower

stem increment, shoot length, and leaf area in response to the cold **temperatures** than did the unthawed plants. Variation in these growth parameters was also significantly correlated with both root and shoot **freezing** injury parameters. Cold hardiness under different **thaw** pretreatments was assessed using the highest **freezing temperature** that caused significant injury, referred to as the **critical temperature**. For seedlings without the **thaw** pretreatment, shoot and root **critical temperatures** were estimated as -52.5 and 23.8[deg]C, respectively. Following 12 days of **thaw**, these **temperatures** increased to -24.08[deg]C for shoots and -13[deg]C for roots. Twelve days of **thaw**, or growing degree-day (>4[deg]C) accumulations greater than 66 during a **thaw** , could sufficiently deharden roots and shoots such that they would be susceptible to **freezing** damage at ambient **temperatures** commonly encountered in the Canadian Maritimes. We also observed that root pressure declined significantly with increasing root **freezing** injury. Sufficient root pressure is required for springtime refilling of xylem embolisms caused by winter cavitation of the vessels in this species. Weak root pressure caused by **freezing** injury would represent a risk of shoot dieback and tree decline due to the remaining embolisms reducing water flow to the developing foliage. The rapid reduction of shoot cold hardiness may also **indicate** the threat of late-spring frosts to this species. These induced changes are especially important under climate change scenarios that suggest increases in winter **temperatures** and changes in seasonality in eastern Canada.

CC FF060 Plant Physiology and Biochemistry; FF700 Plant Disorders and Injuries (Not caused directly by Organisms); FF900 Environmental Tolerance of Plants; KK100 Forests and Forest Trees (Biology and Ecology); PP500 Meteorology and Climate
SC SO; CA; HO; TR; EC; 0F; 0S; 7Q
GT Canada; Prince Edward Island
BT Betula; Betulaceae; Fagales; dicotyledons; angiosperms; Spermatophyta; plants; North America; America; Developed Countries; Commonwealth of Nations; OECD Countries; Canada
CT climatic change; cold injury; cold resistance; container grown plants; **critical temperature**; electrolytes; frost injury; growth; root pressure; roots; seasonal variation; seedlings; shoots; **temperature**
ORGN Betula alleghaniensis; plants

L138 ANSWER 2 OF 9 CABA COPYRIGHT CABI on STN
AN 2001:119405 CABA
DN 20013113275
TI Late-Holocene climatic changes as detected by the growth and decay of ice wedges on the southern shore of Hudson Strait, northern Quebec, Canada
AU Kasper, J. N.; Allard, M.
CS Department of Geography, University of Ottawa, Ottawa, Ontario K1N 6N5, Canada.
SO Holocene, (2001) Vol. 11, No. 5, pp. 563-577. 49 ref.
Publisher: Arnold. London
ISSN: 0959-6836
CY United Kingdom
DT Journal
LA English
ED Entered STN: 20011101
Last Updated on STN: 20011101
AB The dating of cryoturbated palaeosols associated with past ice-wedge activity on late-Holocene sandy fluvial terraces in a region of continuous permafrost leads to an interpretation of periods of ice-wedge growth and active cracking that alternated with periods of decay, dormancy and active layer deepening. The reconstruction corresponds with palaeoclimatic information obtained from existing Arctic-wide and regional proxy records. The 'Little Ice Age' stands out as a period of intense ice-wedge activity in the study area (Quebec, Canada). It was followed by a warm **thawing** interval during the first half of the twentieth century. From AD 1946 to 1991, a well-documented cooling of the climate took place, which reactivated 94% of the studied ice wedges. The pyramidal shape of ice-wedge tops and the depths of the upgrowth features could be correlated between sites several kilometres apart, clearly **indicating** a regional climatic response. The mean annual air **temperature** dropped from about -7.8[deg]C in 1946 to -8.9[deg]C in 1991. The **threshold temperature** for active ice wedges probably lies within this range.
CC PP500 Meteorology and Climate; BB500 History and Biography; JJ400 Soil Morphology, Formation and Classification
SC 0S; SO; CA; EC
GT Canada; Quebec
BT North America; America; Developed Countries; Commonwealth of Nations; OECD Countries; Canada
CT air **temperature**; climatic change; palaeoclimatology; permafrost; quaternary palaeosols; **thawing**

L138 ANSWER 3 OF 9 CABA COPYRIGHT CABI on STN
AN 1998:81306 CABA
DN 19980607636
TI Frost damage and recovery of Scots pine seedlings at the end of the growing season
AU Ryyppo, A.; Sutinen, S.; Maenpaa, M.; Vapaavuori, E.; Repo, T.
CS Finnish Forest Research Institute, Suonenjoki Research Station, FIN-77600 Suonenjoki, Finland.
SO Canadian Journal of Forest Research, (1997) Vol. 27, No. 9, pp. 1376-1382. 34 ref.
ISSN: 0045-5067
DT Journal
LA English
SL French
ED Entered STN: 19980611
Last Updated on STN: 19980611
AB **Freeze-thaw** injury and recovery were studied in unhardened seedlings of Scots pine (Pinus sylvestris) at the end of the second growing season (mid-August) in Joensuu, Finland. Visual damage scoring, microscopy, gas exchange, and plasma membrane H+-ATPase activity were used to determine the degree of damage to the needles. The measurements were performed immediately after the frost treatments in air-cooled chambers and after a 21-day recovery period under favourable conditions in a growth chamber. The first signs of injuries were found by light microscopy immediately after the frost treatments in the mesophyll cells of needles exposed to -2[deg]C. Low H+-ATPase activity **indicated** that injuries occurred at -3.5[deg]C and gas exchange was affected at -5[deg]C. The seedlings exposed to -6.5[deg]C or below lost their needles and died. The seedlings exposed to -5[deg]C showed incomplete recovery and irreversible damage after 21 days when assessed structurally and by gas exchange and visual scoring. At the microscopic level, recovery was complete in the needles exposed to -3.5 and -2[deg]C. The needles subjected to -3.5[deg]C showed high H+-ATPase activity, **indicating** ongoing repair. Accordingly, the **temperature** range for cellular damage to unhardened needles was between -2 and -5[deg]C, depending on the method used, but the **critical temperature** for irreversible damage was between -3.5 and -5[deg]C.
CC KK100 Forests and Forest Trees (Biology and Ecology); FF900 Environmental Tolerance of Plants; FF060 Plant Physiology and Biochemistry; PP500 Meteorology and Climate
SC CA; TR; PL; EC; 0F
GT Finland
BT Pinus; Pinaceae; Pinopsida; gymnosperms; Spermatophyta; plants; Scandinavia; Northern Europe; Europe; Developed Countries; European Union Countries; OECD Countries
CT frost injury; recovery; seedlings; photosynthesis; plant anatomy; enzyme activity; adenosinetriphosphatase; hardiness
RN 9000-83-3
ORGN Pinus sylvestris

L138 ANSWER 4 OF 9 CABA COPYRIGHT CABI on STN
AN 95:22304 CABA
DN 19941612563
TI Molecular mechanisms of **freeze-thaw** injury and cold acclimation in herbaceous plants: merging physiological and genetic approaches
AU Palta, J. P.; Weiss, L. S.; Harbage, J. F.; Bamberg, J. B.; Stone, J. M.; Jackson, M. B. [EDITOR]; Black, C. R. [EDITOR]
CS Department of Horticulture, University of Wisconsin, Madison, WI 73706, USA.
SO Interacting stresses on plants in a changing climate, (1993) pp. 659-680. NATO ASI Series. Series I: Global Environmental Change, Vol. 16. 64 ref.
Publisher: Springer-Verlag. Berlin
Meeting Info.: Interacting stresses on plants in a changing climate.
ISBN: 3-540-57263-5
CY Germany, Federal Republic of
DT Conference Article
LA English
ED Entered STN: 19950201
Last Updated on STN: 19950201
AB In nature several factors, including **ice nucleation**, **temperature**, **freezing** (cooling) rate, duration of exposure to ice, **thawing** rate and post-**thaw** conditions, contribute to the degree of injury caused by frost episodes. Results of experiments showed that an increase in cooling rate from 1 to 4[deg]C h-1 made the difference between survival and death. In the **critical temperature**

range where injury occurs, the **thaw** rate influenced the degree and type of injury. The plasma membrane was a key site of alteration by **freeze-thaw** stress and cold acclimation. Important properties in this respect included membrane lipids and proteins, and the concentration of membrane and cytosolic calcium. Plasma membrane adenosinetriphosphatase (ATPase) appeared to be an important site of cellular response to **freeze- thaw** stress and an alteration in the function of this enzyme was one of the earliest manifestations of stress. These alterations could be mediated by perturbation of cellular Ca2+ and/or changes in membrane lipid composition. These results provide an insight into the mechanisms of incipient injury and recovery following injury. To understand the genetics of **freezing** stress resistance, crosses were made between Solanum commersonii, which is **freezing** tolerant and able to cold-acclimate (double its **freezing** tolerance in 10 days at chilling **temperatures**), and S. cardiophyllum, which is **freezing** sensitive and unable to cold-acclimate. Analysis of the backcross progenies showed that non-acclimated **freezing** tolerance and acclimation ability are genetically distinct traits that segregate independently. Generation mean analysis revealed that cold-acclimation ability can be explained by a simple additive-dominance model. The results **indicated** that the ability to cold-acclimate is genetically relatively simple and should be amenable to selection at the diploid level. Lipid analysis of purified plasma membrane preparations obtained from the parents, F1s and backcross progenies showed that the relative increase in linoleic acid (18:2) in the plasma membrane was highly correlated to cold acclimation ability. An increase in 18:2 co-segregated with the capacity to acclimate. The results suggest that specific membrane lipids play a role in the genetic ability of the plant material to cold-acclimate.

CC FF020 Plant Breeding and Genetics; FF060 Plant Physiology and Biochemistry; FF900 Environmental Tolerance of Plants
SC HO; CR; CA; PL; OP; 7K; 7Q
BT Solanum; Solanaceae; Solanales; dicotyledons; angiosperms; Spermatophyta; plants
CT cold stress; potatoes; wild relatives; cell membranes; **temperature** ; adenosinetriphosphatase; lipids; injuries; linoleic acid; interspecific hybridization; genetics; cold resistance; breeding; reviews; root crops
ST Interacting stresses on plants in a changing climate
RN 9000-83-3; 60-33-3
ORGN plants; Solanum commersonii; Solanum cardiophyllum; Solanum tuberosum

L138 ANSWER 5 OF 9 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
AN 2004:405333 BIOSIS
DN PREV200400408726
TI Pre-treatment inflammation induced by TNF-alpha augments cryosurgical injury on human prostate cancer.
AU Chao, Bo H.; He, Xiaoming; Bischof, John C. [Reprint Author]
CS Dept Biomed Engn, Univ Minnesota, Minneapolis, MN, 55455, USA bischof@umn.edu
SO Cryobiology, (August 2004) Vol. 49, No. 1, pp. 10-27. print. ISSN: 0011-2240 (ISSN print).
DT Article
LA English
ED Entered STN: 20 Oct 2004
Last Updated on STN: 20 Oct 2004
AB Vascular injury is a major mechanism of cryosurgical destruction. The extent of vascular injury may be affected by the addition of molecular adjuvants. This study, in addition to determining the injury mechanism in the LNCaP Pro 5 human prostate cancer subline grown in a nude mouse, examined the effect of cytokine TNF-alpha on cryosurgery of an in vivo microvascular preparation (Dorsal Skin Flap Chamber). A comparison of injury data to a thermal model **indicated** that the minimum **temperature** after moderate cooling, **thawing**, and hold time required for causing necrosis was 3.5 +/- 6.9 degreeC in TNF-alpha-treated LNCaP Pro 5 tumor tissue (n = 4) and -9.8 +/- 5.8 degreeC in TNF-alpha-treated normal skin of the nude mouse (n = 4). Compared to tissues without TNF-alpha treatment, where the minimum **temperature** required for causing necrosis was -16.5 +/- 4.3degreeC in LNCaP Pro 5 tumor tissue (n = 8) and -24.4 +/- 7.0degreeC in normal skin of the nude mouse (n = 9), the results **indicate** the local use of TNF-alpha can dramatically increase the **threshold temperature** of cryo-destruction by more than 10degreeC ($p < 0.01$). These findings were consistent with the hypothesis that vascular-mediated injury is responsible for defining the edge of the cryolesion in microvascular-perfused tissue, and therefore pre-induced inflammation can augment cryoinjury. The local use of TNF-alpha to pre-inflame prostate cancer promises to increase both the ability of **freezing** to destroy cancer as well as improve the ability of ultrasound or other iceball-monitoring techniques to predict the outcome of the treatment.

CC Biochemistry studies - Proteins, peptides and amino acids 10064
Metabolism - General metabolism and metabolic pathways 13002
Cardiovascular system - Blood vessel pathology 14508
Urinary system - Pathology 15506

Reproductive system - Pathology 16506
Endocrine - General 17002
Integumentary system - Physiology and biochemistry 18504
Neoplasms - Immunology 24003
Neoplasms - Pathology, clinical aspects and systemic effects 24004
Immunology - General and methods 34502
Immunology - Immunopathology, tissue immunology 34508
IT Major Concepts
Immune System (Chemical Coordination and Homeostasis); Metabolism; Methods and Techniques; Tumor Biology
IT Parts, Structures, & Systems of Organisms
skin: integumentary system
IT Diseases
cryosurgical injury: injury
IT Diseases
prostate cancer: neoplastic disease, reproductive system disease/male, urologic disease
Prostatic Neoplasms (MeSH)
IT Diseases
vascular injury: injury, vascular disease
IT Chemicals & Biochemicals
TNF-alpha [tumor necrosis factor-alpha]
IT Methods & Equipment
cryosurgery: clinical techniques, therapeutic and prophylactic techniques; cryotherapy: clinical techniques, therapeutic and prophylactic techniques; dorsal skin flap chamber: laboratory equipment
IT Miscellaneous Descriptors
end **temperature**; necrosis; pre-treatment inflammation; **threshold temperature**
ORGN Classifier
Hominidae 86215
Super Taxa
Primates; Mammalia; Vertebrata; Chordata; Animalia

L138 ANSWER 8 OF 9 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
AN 1989:4373 BIOSIS
DN PREV198987004373; BA87:4373
TI NONLINEAR RELATIONSHIP BETWEEN CONCENTRATION AND ACTIVITY OF A BACTERIAL **ICE NUCLEATION** PROTEIN.
AU SOUTHWORTH M [Reprint author]; WOLBER P K; WARREN G J
CS ADVANCED GENET SCIENCES INC, OAKLAND, CALIF 94608, USA
SO Journal of Biological Chemistry, (1988) Vol. 263, No. 29, pp. 15211-15216.
CODEN: JBCHA3. ISSN: 0021-9258.
DT Article
FS BA
LA ENGLISH
ED Entered STN: 6 Dec 1988
Last Updated on STN: 6 Dec 1988
AB The expression level of an **ice nucleation** gene (inaZ) was varied in Escherichia coli to observe the relationship between activity and gene product. The **ice nucleation** activity increased as the 2nd to 3rd power of the membrane concentration of the inaZ gene product, implying that molecules of InaZ protein interact cooperatively in groups of two to three at the rate-limiting step of ice nucleus assembly. The 2nd to 3rd power relationship was independent of the **threshold temperature** at which **ice nucleation** was measured and was consistent over a 500-fold range of protein concentration. Such a relationship **indicates** that the same rate-limiting step must be common to the formation of ice nuclei displaying all the various **threshold temperatures** within a bacterial population. Observations of Pseudomonas syringae, expressing the inaZ gene at various levels, were consistent with a similar relationship and hence a similar mechanism of ice nucleus assembly in Pseudomonas.
CC Biochemistry methods - Proteins, peptides and amino acids 10054
Biochemistry studies - Proteins, peptides and amino acids 10064
Biophysics - Molecular properties and macromolecules 10506
Morphology and cytology of bacteria 30500
Physiology and biochemistry of bacteria 31000
Genetics of bacteria and viruses 31500
Phytopathology - Diseases caused by bacteria 54504
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Genetics; Infection; Physiology

IT Miscellaneous Descriptors
ESCHERICHIA-COLI PSEUDOMONAS-SYRINGAE PLANT FROST DAMAGE
ORGN Classifier
Pseudomonadaceae 06508
Super Taxa
Gram-Negative Aerobic Rods and Cocci; Eubacteria; Bacteria; Microorganisms
Taxa Notes
Bacteria, Eubacteria, Microorganisms
ORGN Classifier
Enterobacteriaceae 06702
Super Taxa
Facultatively Anaerobic Gram-Negative Rods; Eubacteria; Bacteria; Microorganisms
Taxa Notes
Bacteria, Eubacteria, Microorganisms
ORGN Classifier
Plantae 11000
Super Taxa
Plantae
Taxa Notes
Plants

L146 ANSWER 1 OF 1 JICST-EPlus COPYRIGHT JST on STN
AN 950094515 JICST-EPlus
TI Role of Spermidine in the **Ice-Nucleating Activity** of the EIM from Erwinia uredovora KUIN-3.
AU KAWAHARA H; MANO Y; HAMADA R; OBATA H
CS Kansai Univ., Osaka, JPN
SO Biosci Biotechnol Biochem, (1994) vol. 58, no. 12, pp. 2201-2206. Journal Code: G0021A (Fig. 8, Ref. 36)
CODEN: BBBIEJ; ISSN: 0916-8451
CY Japan
DT Journal; Article
LA English
STA New
AB Polyamines have been shown to be necessary for the activity of the extracellular **ice-nucleating** matter (EIM) from the **ice-nucleating bacterium**, Erwinia uredovora KUIN-3. When this **bacterium** was cultured in the presence of methylglyoxal bis(guanylhydrazone), MGBG (2mM), the **ice- nucleating activity** of the EIM significantly decreased. Further, the thermal (25-40.DEG.C.) and pH (alkaline region) stabilities of the activity were stimulated by the addition of spermidine. This phenomenon only occurred in me class A and B structures, and it showed that the hydrophobicities of the class A and B structures in the EIM increased with the addition of spermidine as judged by the freezing difference spectra. We then found by using fluorescent reagents that the physiological roles of spermidine in the EIM controlled the charge, free-amino groups, and hydrophobicities on the surface of the EIM. In conclusion, one could predict that spermidine took part in the charge of the surface, the control of hydrophobicity, and the stability of protein conformation in the class A and B structures in the EIM, and is a **critical** component in the class A and B nucleating structures. (author abst.)
CC FK03020A (663.16+663.18)
CT ice nucleus; Erwinia; hydrazone; polyamine **polymer**; pH dependence; **temperature** dependence; aliphatic amine; biogenic amine
BT fine particle; particle; Enterobacteriaceae; **bacterium**; microorganism; hydrazines; vic-polynitrogen compound; nitrogen compound; nitrogen group element compound; **polymer**; dependence; amine

L148 ANSWER 1 OF 4 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN
AN 1993:431989 BIOSIS
DN PREV199396086614
TI Flesh quality in snapper, Pagrus auratus, affected by capture stress.
AU Lowe, T. E. [Reprint author]; **Ryder, J. M.**; Carragher, J. F. [Reprint author]; Wells, R. M. G. [Reprint author]
CS Sch. Biol. Sci., Univ. Auckland, New Zealand
SO Journal of Food Science, (1993) Vol. 58, No. 4, pp. 770-773, 796.
CODEN: JFDSAZ. ISSN: 0022-1147.
DT Article
LA English
ED Entered STN: 22 Sep 1993

Last Updated on STN: 23 Sep 1993

AB Muscle metabolites in resting, tank acclimated snapper, Pagrus auratus, were monitored for 72 hr postmortem and compared with values from exercised or commercially caught fish. The physiological status of the live animal was quantified by plasma cortisol and blood chemistry. Cortisol levels were lowest in unstressed controls (6.8 +- 2. 1 ng mL-1) while exercised laboratory fish had highest levels (67.7 +- 11.2 ng mL-1). Control fish maintained a constant K-value for 72 hr in chilled storage; all other groups had significant increases. Onset of rigor development and muscle ATP depletion was delayed in unstressed fish and was more rapid in line-captured than exercised fish. Commercial users minimizing stress would maintain high flesh quality.

CC Methods - Laboratory methods 01004
Mathematical biology and statistical methods 04500
Ecology: environmental biology - Wildlife management: aquatic 07516
Comparative biochemistry 10010
Biochemistry methods - General 10050
Biochemistry methods - Sterols and steroids 10057
Biochemistry studies - General 10060
Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
Biochemistry studies - Sterols and steroids 10067
Biophysics - Molecular properties and macromolecules 10506
External effects - Temperature as a primary variable - cold 10616
Physiology - General 12002
Physiology - Stress 12008
Pathology - Necrosis 12510
Metabolism - General metabolism and metabolic pathways 13002
Metabolism - Energy and respiratory metabolism 13003
Metabolism - Sterols and steroids 13008
Metabolism - Nucleic acids, purines and pyrimidines 13014
Food technology - Fish and other marine and freshwater products 13522
Food technology - Evaluations of physical and chemical properties 13530
Food technology - Preparation, processing and storage 13532
Blood - Blood and lymph studies 15002
Endocrine - Adrenals 17004
Muscle - Physiology and biochemistry 17504

IT Major Concepts
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Endocrine System (Chemical Coordination and Homeostasis); Foods; Metabolism; Muscular System (Movement and Support); Wildlife Management (Conservation)

IT Chemicals & Biochemicals
ATP

IT Miscellaneous Descriptors
ENZYMES; FOOD PRESERVATIVES; FOOD PRODUCTS; FOOD QUALITY; METHODS; MICROBIAL SPOILAGE; SHELLFISH; STORAGE **TEMPERATURE**

ORGN Classifier
Malacostraca 75112
Super Taxa
Crustacea; Arthropoda; Invertebrata; Animalia
Organism Name
Heterocarpus reedi
Taxa Notes
Animals, Arthropods, Crustaceans, Invertebrates

ORGN Classifier
Osteichthyes 85206
Super Taxa
Pisces; Vertebrata; Chordata; Animalia
Organism Name

L148 ANSWER 4 OF 4 FROSTI COPYRIGHT LFRA on STN
AN 435765 FROSTI
TI The effects of on-board handling and frozen storage on gaping in hoki (Macruronus novaezelandiae).
AU **Ryder J.M.**; Scott D.N.; Fletcher G.C.
SO Journal of Aquatic Food Product Technology, 1997, 6 (2), 33-44 (11 ref.)
DT Journal
LA English
SL English
AB The effects of on-board handling of hoki on the resulting quality of frozen-thawed product, particularly with regard to gaping, texture, water-holding capacity, and pH of the muscle, were investigated. Fish were either processed within 1 hour of capture, held at ambient

temperatures or in ice until rigor was established, or held at ambient **temperatures** or in ice until rigor was resolved. Fish frozen post-rigor showed the most gaping, while fish frozen pre-rigor had less gaping than those frozen in rigor. **Temperature** of freezing before storage had little effect on gaping. Extended time in frozen storage resulted in decreased water-holding capacity but had little effect on gaping. Gaping was not related to pH levels, and did not affect the textural properties of cooked fish.

SH PROTEINS
CT FISH; FROZEN STORAGE; GAPING; HANDLING; HOKI; PH; RIGOR MORTIS; TEXTURE; WATER HOLDING CAPACITY
DED 20 May 1997

L171 ANSWER 1 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN DUPLICATE 1
AN 2003-810338 [76] WPIX
CR 2001-281091 [29]
DNN N2003-648818 DNC C2003-224929
TI Vial pack/compartment cover comprises plug portions formed from heat curable **rubber** and joined together to form surface of cover, and barrier layer, which releasably seals compartment when cover fully engages compartment.
DC A14 A17 A26 A89 B04 D16 J04 Q32 Q33
IN REO, N J
PA (SPEC-N) SPECIALTY SILICONE PROD INC
CYC 1
PI US 6558628 B1 20030506 (200376)* 13 B01L003-02
ADT US 6558628 B1 US 1999-263308 19990305
PRAI **US 1999-263308 19990305**
IC ICM B01L003-02
ICS B01L003-00; B01L009-00; B29C059-00; B65D017-30; B65D017-50; B65D039-00; B65D041-00; B65D043-00; B65D047-00; B65D051-18; C12M001-22; C12M003-00
AB US 6558628 B UPAB: 20031125
NOVELTY - Vial pack/compartment cover comprising plug portions formed from a heat curable **rubber** and joined together to form a surface of the cover, and a barrier layer (50) which covers the surface of the cover, is new. When the cover fully engages the compartment, only the barrier layer releasably seals the compartment.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) forming the novel cover, comprising:

(a) providing a heat curable **rubber** cover for an at least one compartment (34), where the cover (36) includes a support sheet having a bottom surface and plugs portions on the bottom surface;

(b) covering the plug portions and the bottom surface with a non- **rubber** barrier layer, without using a interfacial layer of adhesive between the cover and the barrier layer; and

(c) covering the compartment with the cover by fully engaging the cover with the compartments; and

(2) a kit comprising a pack including several compartments open to a surface of the pack; and the novel cover.

USE - For covering compartments of or containers within a vial pack, used for simultaneously testing several reactions in the medical, analytical chemistry, and biotechnology field.

ADVANTAGE - The novel vial pack cover allows a user to simultaneously cover several containers, while allowing the user to access an individual container without having to remove the cover from the vial pack, thus avoiding spillage of the samples in the vial pack, and preventing the contents of the containers from degrading or permeating through the cover.

DESCRIPTION OF DRAWING(S) - The drawing is a partial side view of a vial pack cover prior to engaging a vial pack. Vial 32
Compartment 34
Cover 36
Barrier layer 50.
Dwg.6/7
FS CPI GMPI
FA AB; GI; DCN
MC CPI: A12-L04; A12-P03; B04-C03; B11-C08; B12-K04E; D05-H09; J04-B

L171 ANSWER 2 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2002-673340 [72] WPIX
DNN N2002-532300 DNC C2002-189676
TI Packaging method of carton containing pharmaceutical contents, involves applying thermal memory foam material in compressed state around article in carton, which provides external indication of heat damage.

DC A92 Q31
IN ANDERSON, D W
PA (ANDE-I) ANDERSON D W; (INTO) INT PAPER CO
CYC 1
PI US 2002073654 A1 20020620 (200272)* 10 B65B013-20
US 6532720 B2 20030318 (200322) B65B023-22
ADT US 2002073654 A1 Provisional US 2000-256239P 20001215, US 2001-797455 20010301; US 6532720 B2 Provisional US 2000-256239P 20001215, US 2001-797455 20010301
PRAI **US 2000-256239P 20001215; US 2001-797455 20010301**
IC ICM B65B013-20; B65B023-22
ICS B65B003-04
AB US2002073654 A UPAB: 20021108
NOVELTY - Cellular foam material having thermal memory characteristics at a glass transition temperature (Tg) is applied in its compressed state around an article in a carton, leaving a free space in carton. When a temperature exceeding Tg is applied to the carton, the foam material is re-expanded to its original volume to indicate exposure to temperature above predetermined threshold temperature.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for heat damage indicator.
USE - For preventing damage to heat sensitive articles such as bottle, vial or carton containing pharmaceuticals, food, beverages, medical packaging e.g. vaccines, medicines.
ADVANTAGE - The use of thermal memory foam provides a clear and distinctive indication that the contents of the package have been exposed to temperature greater than recommended or considered safe.
DESCRIPTION OF DRAWING(S) - The figure shows the thermal memory cycle of original shape (volume), compaction to a densified shape (volume) and a shape restoration of the cold hibernation elastic memory foam material. Dwg.1/5
FS CPI GMPI
FA AB; GI
MC CPI: A09-A01A; A12-P06B; A12-S02A

L171 ANSWER 3 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2002-055493 [07] WPIX
DNN N2002-040883 DNC C2002-015905
TI Non-discreet thermosensitive composition for providing reversible visual indication of prevailing temperature comprises thermochromic dye dispersed within hardened matrix-forming resin.
DC A89 P81 S03
IN CUSICK, J; DISALVO, G D
PA (DISA-I) DISALVO G D; (CUSI-I) CUSICK J
CYC 94
PI WO 2001084223 A1 20011108 (200207)* EN 13 G02F001-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001059308 A 20011112 (200222)
US 6773637 B1 20040810 (200453) G02F001-00
ADT WO 2001084223 A1 WO 2001-US14006 20010501; AU 2001059308 A AU 2001-59308 20010501; US 6773637 B1 US 2000-563158 20000501
FDT AU 2001059308 A Based on WO 2001084223
PRAI **US 2000-563158 20000501**
IC ICM G02F001-00
ICS G01K011-00; G01N031-00; G02B005-23
AB WO 200184223 A UPAB: 20020130
NOVELTY - Non-discreet thermosensitive composition for detecting the prevailing temperature comprises a thermochromic dye dispersed within a hardened matrix-forming resin
USE - The composition is used for providing a reversible visual indication of the prevailing temperature, particularly to detect when the temperature is within a particular range. It can be used as an indicator that indicates when the temperature of a refrigerator or other food storage container rises above 40-45 deg. F, which is the optimum temperature range for storage of food. It can be applied to a painted or unpainted plastic, ceramic, glass, or metal substrate which is then placed in the refrigerator, or can be applied directly to the refrigerator wall or shelf as a magnetic strip. It can also be used with outdoor faucets and valves to indicate that the freezing point is approaching. It can be applied directly to the valve or faucet, or can be coated on a metal, ceramic, glass, or plastic substrate which can be attached to the valve or

faucet. It is constructed as a flange that is affixed to the exterior or attached to the outside of an outdoor faucet and notifies the observer whether water in line is approaching the freezing point. The composition can also be used as a warning method for bridge surfaces or airplane wings, which are subject to freezing temperature in cold weather. It can also be used by farmers to sense and warn of oncoming frost or other cold temperatures that could damage crops.

ADVANTAGE - The inventive composition is simple to construct and use and possesses a unitary construction. It can sense the differences in the temperature of air currents that flow over the device, and thus is very sensitive to temperature differentials. It is capable of indicating the prevailing temperature in localized regions, with satisfactory degree of precession.

Dwg.0/0

FS CPI EPI GMPI
FA AB
MC CPI: A12-R; A12-T03; A12-W03
EPI: S03-B01G

L171 ANSWER 4 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2001-281091 [29] WPIX
CR 2003-810338 [76]
DNC C2001-085397
TI Production of a vial pack cover and kit, useful for simultaneously covering containers while preventing their contents from degrading or permeating through the cover.
DC A32 A89 B04 Q32 Q33
IN REO, N J
PA (REON-I) REO N J; (SPEC-N) SPECIALTY SILICONE PROD INC
CYC 1
PI US 2001000635 A1 20010503 (200129)* 13 B29C041-22
US 6613283 B2 20030902 (200359) B01L003-00
ADT US 2001000635 A1 Div ex US 1999-263308 19990305, US 2001-752933 20010102;
US 6613283 B2 Div ex US 1999-263308 19990305, US 2001-752933 20010102
PRAI **US 1999-263308 19990305; US 2001-752933 20010102**
IC ICM B01L003-00; B29C041-22
ICS B29B009-00; B29B017-00; B65D017-50; B65D051-18; C12M001-02; C12M003-00
AB US2001000635 A UPAB: 20031125
NOVELTY - A vial pack cover that will allow a user to simultaneously cover containers without concern for the cover being degraded or permeated by the container contents, but also allow for access from individual containers without having to remove the cover from unaccessed containers, is new.

DETAILED DESCRIPTION - Forming a coated vial pack cover comprises:
(a) providing a barrier layer on a mold containing cavities within it;
(b) providing heat-curable **rubber** to the mold;
(c) forming a vial pack cover including pug portions coated with the barrier layer; and
(d) removing the vial pack cover from the mold.

INDEPENDENT CLAIMS are also included for using a heat-curable **rubber** as a cover for the vial pack. Also, the vial pack cover itself, and a vial pack kit.

USE - The cover is useful for enclosing vial packs in the medical, analytical chemistry and biotechnology field which are used for simultaneously testing multiple reactions

ADVANTAGE - The cover allows a user to access individual containers without having to remove the cover from unaccessed containers. Dwg.0/7

FS CPI GMPI
FA AB; DCN
MC CPI: A06-A00E; A11-B05B1; A11-B11; A11-C02D; A11-C04B1; A12-L04; A12-P03; A12-V03; A12-W11L; B11-C03; B11-C06; B11-C06A

L171 ANSWER 5 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2000-363454 [31] WPIX
CR 1996-288677 [30]
DNN N2000-271830 DNC C2000-109738
TI Insulating container for transporting and storing thermally sensitive materials, eg. pharmaceuticals, has heat sinks acting on top and bottom chambers containing a panel for holding vials in an array of apertures.
DC A11 A97 B07 G04 Q75
IN CANSFIELD, K T; COOK, S L; KENYON, D J; VILLA, J N
PA (JOHJ) JOHNSON & JOHNSON; (TCPR-N) TCP/RELIABLE INC
CYC 1
PI US 6044650 A 20000404 (200031)* 12 F25D003-08
ADT US 6044650 A CIP of US 1994-359802 19941220, US 1997-910392 19970813

PRAI **US 1997-910392 19970813; US 1994-359802 19941220**
IC ICM F25D003-08
AB US 6044650 A UPAB: 20000630
NOVELTY - The container has walls integrally formed with a base, a lid nesting within the open end and an insulating insert (68) on the inside walls. A step-shaped panel divides the container into top and bottom chambers (40,42), each filled with gas, eg. air, and served by a heat sink (34,24) comprised of a phase change material, in the lid and base respectively. The panel has an array of apertures for receiving vials and a central aperture for a temperature indicator casing (76).
USE - For maintaining thermally sensitive materials, eg. biologically active proteins, medicaments and pharmaceuticals, at an essentially constant temperature during transport and storage, eg. during storage prior to loading on an aircraft and exposure to sub-freezing temperatures during flight.
ADVANTAGE - The **thermoplastic** walls and lid provide a first barrier to prevent temperature changes within the container. The insulating insert also contributes a shock absorbing component to the container. The equidistant spacing of vials around the central aperture provides a true reading of temperature ranges affecting the vials. The temperature indicator alerts a user to any exposure of the vials to temperatures below the freezing point of the contained liquid or above the temperature necessary to maintain stability.
DESCRIPTION OF DRAWING(S) - The drawing shows an elevational view of the container partially cut away.
Base heat sink 24
Lid heat sink 34
Top chamber 40
Bottom chamber 42
Insulating insert 68
Temperature indicator casing. 76 Dwg.2/11
FS CPI GMPI
FA AB; GI; DCN
MC CPI: A03-A04A; A04-E02E; A12-P03; A12-P06B; A12-S04C; B04-C02A2; B04-C02B; B04-C03B; B04-C03D; B04-N04; B10-E02; B10-E04; B11-C06; B12-M04; G04-B01

L171 ANSWER 6 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN DUPLICATE 2
AN 1997-309446 [28] WPIX
DNN N1997-256449
TI Carbon dioxide absorbent depletion indicator for anaesthetic gas administration system - has temperature indicator which is calibrated permanently to undergo change of colour at temperature of absorbent indicative of extensive exhaustion of absorbent due to carbon dioxide absorption.
DC S03
IN MCDONALD, L; MCDONALD, S; TOMLINSON, B; TOMLINSON, J
PA (MCDO-I) MCDONALD L; (MCDO-I) MCDONALD S; (TOML-I) TOMLINSON B; (TOML-I) TOMLINSON J
CYC 1
PI US 5634426 A 19970603 (199728)* 4 G01K011-12
ADT US 5634426 A US 1995-393088 19950222
PRAI **US 1995-393088 19950222**
IC ICM G01K011-12
AB US 5634426 A UPAB: 19970709
The device includes a canister having a carbon dioxide absorbent held therein. An indicator is provided for the canister to determine when the carbon dioxide absorbent is exhausted. The indicator is in the form of at least one **wax** temperature indicator calibrated permanently to undergo change of colour at a temperature of the absorbent indicative of extensive exhaustion of the absorbent due to carbon dioxide absorption. The absorbent is selected from the group consisting of soda linac and baralyme.
ADVANTAGE - Provides more reliable indicator indicating exhaustion or developing exhaustion of absorbent in anaesthetic gas administration system.
Dwg.1/5
FS EPI
FA AB; GI
MC EPI: S03-B01; S03-B01E

L171 ANSWER 7 OF 23 HCAPLUS COPYRIGHT ACS on STN
AN 1996:73291 HCAPLUS
DN 124:99231
ED Entered STN: 03 Feb 1996

TI Temperature indicating device and composition for this use
IN Hof, Craig R.
PA PyMaH Corp., USA
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G01K011-00
ICS G01K011-06
CC 69-4 (Thermodynamics, Thermochemistry, and Thermal Properties)
Section cross-reference(s): 63
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	EP 684463	A1	19951129	EP 1995-303099	19950505	<--
	R: DE, FR, GB					
	US 5816707	A	19981006	US 1995-425162	19950426	<--
PRAI	US 1994-191254	A	19940506	<--		
	US 1995-425162	A	19950426	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
EP 684463	ICM	G01K011-00	
	ICS	G01K011-06	
EP 684463	ECLA	G01K011/06	<--
US 5816707	ECLA	G01K011/06	<--

AB A composition for use in a reversible thermometer comprising a thermally responsive material capable of being supercooled for several minutes, and of changing state from solid to liquid at a predetd. temperature, means for visually observing the change in state, and a matrix forming material in which the thermally responsive material is dispersed, the matrix material comprising an amorphous organic compound, and being insol. in the thermally responsive material. A suitable matrix material is polyisobutylene, and a suitable thermally responsive material is a solid solution of ortho-chloronitrobenzene and ortho-bromonitrobenzene.

ST reversible thermometer supercooling chloronitrobenzene bromonitrobenzene polyisobutylene; thermally responsive material chloronitrobenzene bromonitrobenzene thermometer; clin thermometer supercooling chloronitrobenzene bromonitrobenzene polyisobutylene

IT Thermometers
(clin.; reversible thermometer and composition for this use)

IT Dyes
Supercooled materials
(reversible thermometer and composition for this use)

IT Alcohols, uses
RL: DEV (Device component use); USES (Uses)
(C16-22, emulsifying agent; reversible thermometer and composition for this use)

IT Acids, uses
RL: DEV (Device component use); USES (Uses)
(organic, reversible thermometer and composition for this use)

IT 36653-82-4, Cetyl alcohol
RL: DEV (Device component use); USES (Uses)
(emulsifying agent; reversible thermometer and composition for this use)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-27-4, Polyisobutylene
RL: DEV (Device component use); USES (Uses)
(matrix; reversible thermometer and composition for this use)

IT 84-65-1, 9,10-Anthraquinone
RL: DEV (Device component use); USES (Uses)
(**nucleating agent**; reversible thermometer and composition for this use)

L171 ANSWER 8 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1994-160544 [20] WPIX
DNC C1994-073552
TI **Polymer**-bound reagents for assays or affinity separation - comprising bioactive substance linked to **polymer** particles through pendant aldehyde gps..
DC A96 B04 D16
IN DANIELSON, S J; PONTICELLO, I S; SUTTON, R C

PA (CLIN-N) CLINICAL DIAGNOSTIC SYSTEMS INC; (EAST) EASTMAN KODAK CO; (JOHJ) JOHNSON & JOHNSON CLINICAL DIAGNOSTICS INC; (JOHJ) JOHNSON & JOHNSON CLINICAL DIAGNOSTICS
CYC 12
PI EP 597510 A1 19940518 (199420)* EN 12 G01N033-545
R: BE CH DE FR GB IE IT LI NL SE
JP 06213897 A 19940805 (199436) 7 G01N033-68
US 5401633 A 19950328 (199518) 11 G01N033-546
EP 597510 B1 19980610 (199827) EN G01N033-545
R: BE CH DE FR GB IE IT LI NL SE
DE 69319064 E 19980716 (199834) G01N033-545
JP 3311831 B2 20020805 (200258) 7 G01N033-545
ADT EP 597510 A1 EP 1993-202762 19930925; JP 06213897 A JP 1993-244785 19930930; US 5401633 A US 1992-955167 19921001; EP 597510 B1 EP 1993-202762 19930925; DE 69319064 E DE 1993-619064 19930925, EP 1993-202762 19930925; JP 3311831 B2 JP 1993-244785 19930930
FDT DE 69319064 E Based on EP 597510; JP 3311831 B2 Previous Publ. JP 06213897
PRAI **US 1992-955167 19921001**
REP 1.Jnl.Ref; CA 1054743; EP 134660; EP 350407; FR 2663337; US 4401765; US 4552633
IC ICM G01N033-545; G01N033-546; G01N033-68
ICS C12Q001-68; G01N033-50; G01N033-52
AB EP 597510 A UPAB: 19951109
New reagents (I) comprise a biologically active substance (II) covalently attached to particles that are insoluble and non-swellable in **water**. The surface of the particles is composed of a **polymer** derived from an ethylenically unsatd. monomer having a pendant aldehyde gp., and (II) is covalently attached through the pendant aldehyde gp. The monomer is of formula CHR-CR1Ar(R2OR4)n(R5)mCHO (III): Ar = opt. substd. 6-14C arylene; R and R1 = H, halogen or opt. substd. 1-4C alkyl; R2 and R3 = opt. substd. 1-4C alkylene; R4 = opt. substd. 6-14C arylene; m = 0 or 1; n = 1-4.

(III) is pref. o-, p- or m-formylphenyl vinylbenzyl ether, o-, p- or m-(2-formylethyl)phenyl vinylbenzylether, 2-, 3- or 4-formylnaphthyl vinylbenzyl ether, 3- or 4-formyl-2-methylphenyl vinylbenzyl ether, formylbiphenylyl vinylbenzyl ether or 4-(4-(4-(4-formyl phenoxymethyl)phenoxymethyl) -phenoxymethyl)- styrene.

USE/ADVANTAGE - (I) are useful in assays for drugs, hormones, steroids, polypeptides, metabolites, toxins, viruses, **microorganisms**, nucleic acids, etc., and in affinity chromatography. (I) are easily prepared under mild conditions such that the integrity of (II) is preserved; are colloidally stable in solution and in coated formulations; and have good storage stability in **aqueous** media at pH 5 or less.

Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: A04-C; A10-E01; A12-V03C2; A12-W11L; B04-C03B; B04-E01; B04-G01; B05-A04; B11-C07A3; B12-K04; D05-H09

L171 ANSWER 9 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1993-287222 [36] WPIX
DNN N1993-220928
TI Freeze indicator for indicating product temperature - coats inner surface of blister containing ampoule containing liquid which expands upon freezing with absorbent layer comprising binder wettable by liquid and filler..
DC S03
IN IGNACIO, R T; LARSSON, R P
PA (PYMA-N) PYMAH CORP
CYC 1
PI US 5239942 A 19930831 (199336)* 11 G01K005-32
ADT US 5239942 A US 1992-881027 19920511
PRAI **US 1992-881027 19920511**
IC ICM G01K005-32
AB US 5239942 A UPAB: 19931122
The freeze indicator includes a frangible ampoule containing a liquid which expands upon freezing, **a dye soluble in the liquid** and a **nucleating agent**. The **nucleating agent** and the liquid have substantially similar space groupings. The ampoule is enclosed within a blister of transparent film. The blister is adhered to a backing and the inner surface of the blister is coated with an absorbent layer comprising a binder wettable by the liquid and a filler.

Upon rupture of the ampoule the liquid containing dye is absorbed by the absorbent layer, causing a colour change in the absorbent layer visible through the transparent film.

USE/ADVANTAGE - Provides precise information that product has been exposed to low temperature e.g. freezing point of water. Dwg.5/5

FS EPI
FA AB
MC EPI: S03-B01D; S03-B01X

L171 ANSWER 11 OF 23 HCAPLUS COPYRIGHT ACS on STN
AN 1994:4044 HCAPLUS
DN 120:4044
ED Entered STN: 08 Jan 1994
TI Immunoassays employing generic anti-hapten antibodies and materials for use therein
IN Parsons, Robert G.; Kowal, Robert; Yue, Vincent T.
PA Abbott Laboratories, USA
SO PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM G01N033-573
ICS G01N033-546; G01N021-07
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 2, 4, 15
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9320446	A1	19931014	WO 1993-US2920	19930329	<--
	W: AU, CA, JP, KR					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	US 5270166	A	19931214	US 1992-859772	19920330	
	AU 9339394	A1	19931108	AU 1993-39394	19930329	<--
	EP 634019	A1	19950118	EP 1993-908643	19930329	<--
	R: BE, CH, DE, ES, FR, GB, IT, LI					
	JP 07506185	T2	19950706	JP 1993-517602	19930329	<--
PRAI	US 1992-859772	A	19920330	<--		
	WO 1993-US2920	A	19930329			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9320446	ICM	G01N033-573
	ICS	G01N033-546; G01N021-07

AB The immunoassay method for detecting an analyte (A) in a sample comprises (1) exposing the sample to an anti-A antibody (αA), anti-hapten antibody (αH), and hapten-analyte conjugate (HA) for a sufficient time to allow the formation of αA-HA-αH complex and αA-A complex; (2) separating αA-HA-αH from αA, HA, and αA-A; and (3) determining the amount of αA-HA-αH which is inversely proportional to A in the sample or αA-A which is proportional to the sample A. The immunoassay can be an agglutination assay where αHs are coated onto particles, e.g. cells (dyed erythrocytes, etc.), or microparticles of **latex**, **plastic**, selenium, iron, and gold. The analyte is an antigen, an antibody, a drug, a toxin, a vitamin, a hormone, an allergen, an abuse drug, a hapten, etc. Thus, Duracyte cells coated with rabbit anti-fluorescein, sheep anti-cocaine antisera, and fluorescein-cocaine conjugates were used for determining benzoylecgonine (a cocaine metabolite) in urine. An assay for the simultaneous determination of benzoylcgonine, morphine, and phencyclidine was also described.

ST immunoassay hapten analyte conjugate; antibody generic hapten immunoassay
IT Animal cell
Latex
Plastics
RL: ANST (Analytical study)
(anti-hapten antibody coated on particles of, for analyte immunoassay using anti-hapten and anti-analyte and hapten-analyte conjugates)
IT Urine analysis
(benzoylecgonine determination in, by immunoassay using anti-hapten and anti-analyte and hapten-analyte conjugates)
IT **Microorganism**
(determination of antigens of, immunoassay using anti-hapten and anti-analyte and hapten-analyte conjugates for)
IT Antibodies
Antigens
RL: ANT (Analyte); ANST (Analytical study)
(determination of, by immunoassay using anti-hapten and anti-analyte and hapten-analyte conjugates for analyte determination)

IT Allergens
Cannabinoids

L171 ANSWER 12 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN DUPLICATE 3
AN 1992-261054 [32] WPIX
DNN N1992-199620
TI **Temperature warning for frozen foods or biological materials - comprises cell of coloured fluid which may fracture membrane to release colourant indicating temperature change.**
DC S03
IN CHAMOT, J
PA (VERN-N) VERNET; (PROC-N) PROCEDES VERNET SA; (VERN-N) VERNET
CYC 4
PI EP 497638 A1 19920805 (199232)* FR 10 G01K011-06
R: DE GB IT
FR 2672123 A1 19920731 (199239) G01K011-06
EP 497638 B1 19960911 (199641) FR 11 G01K011-06
R: DE GB IT
DE 69213490 E 19961017 (199647) G01K011-06
ADT EP 497638 A1 EP 1992-400040 19920108; FR 2672123 A1 FR 1991-953 19910129; EP 497638 B1 EP 1992-400040 19920108; DE 69213490 E DE 1992-613490 19920108, EP 1992-400040 19920108
FDT DE 69213490 E Based on EP 497638
PRAI **FR 1991-953 19910129**
REP EP 153259; EP 92027; GB 2051361; US 3889658
IC ICM G01K011-06
ICS A23L003-36; G01K011-12
AB EP 497638 A UPAB: 19961104
The indicator includes a metallic dish (3) within which there is a colourant material (2). The dish is closed by an **elastomeric** membrane (5) which is not as robust as the dish itself. Above the membrane there is a small space, and outside this there is a transparent sealing layer.
The colour of the membrane contrasts with that of the coloured product contained beneath it, so that if the membrane splits, then the contrasting colour of the product is seen.
USE - Shows whether temperature has changed beyond certain limit, and may be used to monitor frozen food processing. Dwg.1/7
FS EPI
FA AB; GI
MC EPI: S03-B01X

L171 ANSWER 13 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1992-182507 [22] WPIX
DNN N1992-137738 DNC C1992-083611
TI Freeze indicator - comprises frangible ampoule containing a **nucleating agent** and poison inhibitor.
DC E37 G04 S03
IN LARSSON, R P; LEVENDUSKY, G T
PA (PYMA-N) PYMAH CORP
CYC 1
PI US 5111768 A 19920512 (199222)* 8 G01K005-32
ADT US 5111768 A US 1991-712335 19910607
PRAI **US 1991-712335 19910607**
IC ICM G01K005-32
ICS G01N031-00
AB US 5111768 A UPAB: 19931006
Freeze indicator comprises a frangible ampoule containing a liquid (I) which expands on freezing to break the ampoule and a **nucleating agent** (II). Agent (II) is a metal cpd. insol. in (I) and has similar molecular space groupings thereto. A soluble salt of the same metal as present in (II) is also included in (I) as a poison inhibitor for agent (II). Pref. cupric, ferrous, molybdenum or tungsten sulphides or silver or cuprous iodides are (II) and inhibitor is e.g. cupric sulphate, ferrous sulphate or molybdenum tetrabromide etc., Pref. (I) is H2O or D2O. An alternative indicator comprises (I) and (II) which is a metal cpd. with a solubility in liquid (I) of 0.15 -1 weight% together with an indicator pad e.g. an adsorbent material containing a H2O soluble dye to provide a visual indication of freezing.
USE/ADVANTAGE - Indicator provides information that prods. have been exposed to low temps. e.g. near freezing pt. of H2O. Presence of (II) eliminates undercooling effect of liquid (I) and poison inhibitor means effectiveness of (II) over extended time periods. 1/4
FS CPI EPI
FA AB; GI; DCN
MC CPI: E31-P02D; G04-B09
EPI: S03-B01D; S03-E01A

L171 ANSWER 14 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1992-104536 [13] WPIX
DNN N1992-078239 DNC C1992-048894
TI Temperature indicating device - comprises heat conducting carrier having spaced region(s) to determine predetermined temps. useful for measuring temperature of urine.
DC B04 E14 E24 G04 J04 R14 S03
IN LARSSON, R P; LEVE; LEVENDUSKY, G T
PA (PYMA-N) PYMA CORP
CYC 1
PI US 5094545 A 19920310 (199213)* 22
ADT US 5094545 A US 1990-590160 19900928
PRAI **US 1990-590160 19900928**
IC G01K011-06
AB US 5094545 A UPAB: 19931006
A temperature-indicating device is new and comprises a heat conducting carrier having a spaced region(s) to determine a like number of predetermined temps. in a predetermined temperature range. The spaced regions contain a like number of diferent temperature indicating compsns., each a solid solution The carrier has a transparent cover sheet means in sealing engagement with it, a single solid solution is deposited in each of the regions and being associated with a single one of the predetermined temps., each temperature indicating compsn. exhibits a sharp colour change upon transition from a solid state to a liquid state, and comprises: (a) a solvent, the solvent being a temperature responsive compsn. which changes from a solid at the predetermined temperature to a liquid state; and (b) at least one organic moiety dissolved in an inert towards the solvent to form a solid solution when the compsn. is in the solid state, and changes the colour of the comps. visible to the naked eye upon the change in state at the predetermined temperature when dissolved. The temperature compsn. contains a **nucleating agent** and an organic moiety. The temperature sensing compsn. is selected so as to have an observable initiation of melt which is used to indicate a predetermined temperature and a completion of melt temperature which is 0.3-1.9 deg. F greater than the observable initiation of melt temperature Also claimed is a method for measuring the temperature of a urine sample using the above device.
USE/ADVANTAGE - The thermometer provided is useful for measuring the temperature of urine. It is a real time device, and with minor modifications may be used as an auxillary thermometer.
7/7
FS CPI EPI
FA AB; GI; DCN
MC CPI: B04-B04B; B11-C08; B12-K04A; E06-D02; E10-A01; E10-A09B5; E10-B04A; E10-C02D; G04-B09; J04-B01B
EPI: S03-B01X; S03-E14H9

L171 ANSWER 15 OF 23 JAPIO (C) 2004 JPO on STN
AN 1992-072568 JAPIO
TI METHOD AND DEVICE FOR MEASURING IMMUNOLOGICALLY ACTIVE MATERIAL
IN MIYAZAKI TAKESHI; TANAKA KAZUSANE; OKAMOTO HISASHI; SAKURANAGA MASANORI
PA CANON INC
PI JP 04072568 A 19920306 Heisei
AI JP 1990-185681 (JP02185681 Heisei) 19900713
PRAI **JP 1990-185681**19900713
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1992
IC ICM G01N033-543
AB PURPOSE: To accurately determine the quantity of an immunologically active material by bonding to the surface of solid particles the material immunologically active to another material to be measured in a sample, and optically measuring the degree of aggregation of a reaction mixture produced when the solid particles react with the sample while in a predetermined dispersed state.
CONSTITUTION: Particles derived from an **organism** (**bacteria** such as staphylococus or the like), inorganic particles (silica, alumina or the like) and organic particles (styrene, vinyl chrolide or the like) are used as solid particles. An immunologically active material such as an hCG andibody, a CRP andibody, a β<SB>2</SB>-phetoprotein antibody or the like is physically and/or chemically bound to the surface of the solid particles and dried. After a dispersed state of the particles within a range of A/A<SB>0</SB><=1.1 (A<SB>0</SB>, A are the respective indexes of a complete dispersed body and a dispersed body during reaction) is made sure, the particles are stirred and made to react with the active material and the state of aggregation of a reaction product generated is optically measured. The reproducibility and reliability of each measured value can thus be enhanced.

L171 ANSWER 16 OF 23 JAPIO (C) 2004 JPO on STN

AN 1992-072567 JAPIO
TI METHOD AND DEVICE FOR MEASURING IMMUNOLOGICALLY ACTIVE MATERIAL
IN MIYAZAKI TAKESHI; OKAMOTO HISASHI; TANAKA KAZUSANE; SAKURANAGA MASANORI
PA CANON INC
PI JP 04072567 A 19920306 Heisei
AI JP 1990-185675 (JP02185675 Heisei) 19900713
PRAI **JP 1990-185675**19900713
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1992
IC ICM G01N033-543
AB PURPOSE: To enhance the reproducibility of each measured value by bonding to the surface of solid particles a material immunologically active to another material to be measured in a sample, and optically measuring the degree of aggregation of a reaction mixture produced when the solid particles react with the sample while in a predetermined dispersed state. CONSTITUTION: Particles derived from an **organism** (**bacteria** such as staphylococus or the like), inorganic particles (silica, alumina or the like) and organic particles (styrene, vinyl chrolide or the like) are used as solid particles. An immunologically active material such as an hCG andibody, a CRP antibody, a β<SB>2</SB>-microglobulin antibody or the like is physically and/or chemically bound to the surface of the solid particles and dried. After a dispersed state of the particles within a range of A/A<SB>0</SB><=1.1 (A<SB>0</SB>, A are the respective indexes of a complete dispersed body and a dispersed body during reaction) is made sure, the particles are stirred and made to react with the active material and the state of aggregation of a reaction product generated is optically measured. Thereby the quantity of the immunologically active material can be accurately determined.
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L171 ANSWER 18 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1989-087613 [12] WPIX
CR 1988-243998 [35]; 1988-243999 [35]; 1988-244001 [35]; 1988-244002 [35]; 1988-244003 [35]; 1988-251887 [36]; 1989-087610 [12]; 1992-040300 [05]; 1993-264621 [33]; 1994-056339 [07]
DNN N1989-066803 DNC C1989-038762
TI Dye-providing compsn. and diagnostic test kit - comprises imidazole leuco dye forming dye in presence of hydrogen peroxide and peroxidative substance, with **water**-soluble **polymer**.
DC A96 B04 D16 J04 S03
IN BISHOP, J F; MCCLUNE, G J; CONTESTABLE, P B; SNYDER, B A
PA (EAST) EASTMAN KODAK CO
CYC 8
PI EP 308236 A 19890322 (198912)* EN 8
R: CH DE FR GB LI
US 5024935 A 19910618 (199127)
CA 1321045 C 19930810 (199338) C12Q001-28
EP 308236 B1 19941123 (199445) EN 11 C12Q001-28
R: CH DE FR GB LI
DE 3852162 G 19950105 (199506) C12Q001-28
JP 07036015 B2 19950419 (199520) 8 G01N033-535
ADT EP 308236 A EP 1988-308569 19880916; US 5024935 A US 1987-136166 19871218; CA 1321045 C CA 1988-569195 19880610; EP 308236 B1 EP 1988-308569 19880916; DE 3852162 G DE 1988-3852162 19880916, EP 1988-308569 19880916; JP 07036015 B2 JP 1988-230207 19880916
FDT DE 3852162 G Based on EP 308236; JP 07036015 B2 Based on JP 01100453
PRAI US 1987-136166 19871218; **US 1987-98431 19870918**
REP A3...9039; EP 256562; FR 2361654; No-SR.Pub; US 4089747; US 4283491; WO 8502018
IC C12N009-96; C12Q001-28; G01N033-52
ICM C12Q001-28; G01N033-535
ICS C12N009-96; G01N033-50; G01N033-52; G01N033-536; G01N033-58; G01N033-76
AB EP 308236 A UPAB: 19940428
Dye-providing compsn. comprises a **water**-soluble or -dispersible **polymer**, and is characterised in that; to comprises an imidazole leuco dye capable of providiing a dye in the presence of H2O2 and a peroxidative substance; the weight ratio of **polymer** to leuco dye is 10,000:1-100:1; and the **polymer** is a vinylpyrrolidone **polymer**, acrylamide **polymer**, (meth) acrylic acid **polymer**, polyethylene glycol or polyamine.
Pref. the compsn. also comprises an electron transfer agent. Diagnostic test kit for the determination of an analyte is a result of peroxidase activity comprises : (a) a susbstrate for peroxidase; and (b) the dye-providing compsn. Pref. the kit also comprises a test device

compriosing a **water**-insoluble substrate having test zone(s) and/or a peroxidase labelled specific bonding cpd.

USE/ADVANTAGE - Useful in qualitative or quantitative determination of a variety of ligands in biological fluids, e.g. blood, urine, lymph, bite, spinal fluid, stool specimens, etc., as well as tissue preparation. Ligands which may be detected include peptide, proteins, drugs, haptens, hormones, polysaccharides, **microorganisms**, etc. Dwg.0/0

FS CPI EPI
FA AB; DCN
MC CPI: A12-V03C2; B03-L; B04-A07A; B04-B02B; B04-B02D; B04-B04A; B04-B04B; B04-B04C; B04-B04D4; B04-B04D5; B04-B04H; B04-B04L; B04-C01; B04-C03; B05-C08; B07-D09; B11-C07B1; B12-K04; D05-H04; D05-H05; D05-H06; D05-H09; J04-B01
EPI: S03-E09E; S03-E14H; S03-E14H4

L171 ANSWER 19 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1988-243999 [35] WPIX
CR 1988-243998 [35]; 1988-244001 [35]; 1988-244002 [35]; 1988-244003 [35]; 1988-251887 [36]; 1989-087610 [12]; 1989-087613 [12]; 1992-040300 [05]; 1993-264621 [33]; 1994-056339 [07]
DNN N1988-185638 DNC C1988-109056
TI Extraction and detection Streptococcus A antigen - using substrate with dried coating of organic acid reagent required for nitrous acid extraction, and subsequent neutralisation.
DC B04 D16 S03
IN BELLY, R T; CONTESTABLE, P B; SNYDER, B A; CONTESTABL, P B
PA (EAST) EASTMAN KODAK CO
CYC 10

PI	EP 280557	A	19880831 (198835)*	EN	8	
	R: CH DE FR GB LI					
	US 4808524	A	19890228 (198911)		8	
	JP 01100453	A	19890418 (198921)			
	CA 1289069	C	19910917 (199145)			
	US 33850	E	19920317 (199214)		8	
	EP 280557	B1	19930908 (199336)	EN	13	G01N033-569
	R: CH DE FR GB LI					
	DE 3883808	G	19931014 (199342)			G01N033-569
	JP 07036015	B2	19950419 (199520)		8	G01N033-535

ADT EP 280557 A EP 1988-301651 19880226; US 4808524 A US 1987-131618 19871211; JP 01100453 A JP 1988-230207 19880916; US 33850 E US 1990-509648 19900220; EP 280557 B1 EP 1988-301651 19880226; DE 3883808 G DE 1988-3883808 19880226, EP 1988-301651 19880226; JP 07036015 B2 JP 1988-230207 19880916
FDT DE 3883808 G Based on EP 280557; JP 07036015 B2 Based on JP 01100453
PRAI **US 1987-19850 19870227; US 1987-98431 19870918; US 1987-131618 19871211**; US 1987-136166 19871218
REP A3...9051; EP 150567; EP 231750; No-SR.Pub; US 4673639; WO 8701393
IC C12Q001-14; G01N033-54; G01N033-56
ICM G01N033-535; G01N033-569
ICS C12Q001-14; G01N033-50; G01N033-536; G01N033-54; G01N033-546; G01N033-56

AB EP 280557 A UPAB: 19940428
A test kit for the detection of Streptococcus A antigen comprises (a) a water-insoluble substrate having a dried coating of a first extraction reagent which is necessary for nitrous acid extraction of the antigen from a Streptococcus A **organism**, (b) an aqs. solution of a second extraction reagent which is necessary for the nitrous acid extraction, (c) a sample of an immunoreactive reagent comprising water-insoluble particles having either Streptococcus A antigen or antibodies to the antigen attached, the kit characterised in that the first extraction reagent coating is binder-free and the kit further comprises (d) a neutralising solution having a pH of 5-10.

Pref. the first extraction reagent is a nonvolatile organic acid which has a pKa equal to or lesser than 5 and a m. pt. equal to or greater than 18 deg. C at atmospheric pressure, e.g. citric acid, phenylacetic acid, glycolic acid, trichloroacetic acid, succinic acid, p-toluene sulphonic acid or sebacic acid. The second extraction reagent is pref. a nitrite.

Also claimed is an extraction device for extracting Streptococcus A antigen from a biological specimen comprising (i) a water-soluble container having affixed internally a dried coating of an extraction reagent which is necessary for nitrous acid extraction of the antigen from a Streptococcus A **organism** and (ii) an applicator for collecting and depositing the biological specimen within the container.

ADVANTAGE - The device avoids the use of a binder material to immobilise the reagent on a substrate. The neutralisation step reduces or eliminates the adverse effects of highly acidic conditions on antibody molecules and agglutination reagents which have free carboxyl gps.. Dwg.0/0

FS CPI EPI
FA AB; DCN
MC CPI: B04-B04C2; B04-B04C6; B05-C03; B07-E03; B10-A09B; B10-B01B; B10-C02; B10-C04; B11-C07A; B12-K04A; D05-H09
EPI: S03-E14H4

L171 ANSWER 21 OF 23 HCAPLUS COPYRIGHT ACS on STN
AN 1987:152567 HCAPLUS
DN 106:152567
ED Entered STN: 15 May 1987
TI Agglutination color change test involving two differently colored reagent spots
IN Olson, Douglas R.; Harness, James R.; Waterston, John W.
PA Meloy Laboratories, Inc., USA
SO U.S., 8 pp. Cont. of U.S. Ser. No. 313,558, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM G01N033-546
ICS G01N033-564; G01N033-569
NCL 435005000
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 2
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4639419	A	19870127	US 1984-653384	19840921 <--
PRAI US 1981-313558		19811022 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 4639419	ICM	G01N033-546
	ICS	G01N033-564; G01N033-569
	NCL	435005000

AB A method and device for detecting an antigenic material is described which comprises a test utensil having an indentation in which two reagent spots are placed, the first body being a dyed substrate having a coating of an antibody or antibody-like material thereon and the second of the two reagent spots comprising a dyed test-inert material or a dyed substrate with a coating of a normal animal serum, the dye employed in the second reagent spot having a different color than that employed in the first spot. When a liquid test sample is added to the indentation, the dyed substrate particles or components are suspended or solubilized, and the resulting suspension gives the appearance of a third color. A pos. agglutination test is indicated by the formation of at least one spot having the color of the first dyed substrate against a background having the color of the second dyed substrate. Heat-inactivated, formalin-fixed, protein A-containing Staphylococcus aureus of .apprx.1.0 μm were dyed blue with Acid Blue 15 and yellow with Auramine 0. The blue particles were sensitized with the IgG fraction of a rabbit antiserum to human chorionic gonadotropin, and the yellow particles were coated with normal rabbit serum. The test for detection of pregnancy was performed by adding several drops of urine to the receiving portion of a test tube or test slide containing the spots.

IT Dyes
(agglutination-test reagent particles colored with, for detection of antigens in body fluids by color change)
IT Color
(detection of change in, in agglutination test, colored substrate particles in)
IT Virus
(detection of, by agglutination test, reaction vessel containing colored reagent particles for, color-change detection in relation to)
IT Hormones
Rheumatoid factors
IT **Bacteria**
(detection of, reaction vessel containing colored reagent particles for, color-change detection in relation to)
IT Immunochemical analysis
(agglutination test, reaction vessel containing colored substrate particles

for, color-change detection in relation to)
IT 2465-27-2 5863-46-7, Acid blue 15 (Staphylococcus aureus particle colored with, as reagent for
agglutination color-change test)

L171 ANSWER 22 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN DUPLICATE 5
AN 1986-070694 [11] WPIX
DNN N1986-051598 DNC C1986-030156
TI Agglutination method for ligand detection - using reagent containing two or more coloured substances which form distinctively coloured agglutinates.
DC B04 J04 S03
IN HADFIELD, S G; NORRINGTON, F E A
PA (WELL) WELLCOME FOUND LTD
CYC 19
PI EP 174195 A 19860312 (198611)* EN 15
R: AT BE CH DE FR GB IT LI LU NL SE
AU 8547118 A 19860313 (198618)
JP 61076958 A 19860419 (198622)
DK 8504050 A 19860307 (198623)
HU 38730 T 19860630 (198633)
ZA 8506820 A 19870305 (198721)
US 4745075 A 19880517 (198822)
CA 1258625 A 19890822 (198937)
IL 76307 A 19900429 (199026)
US 4960713 A 19901002 (199042)
US 4960714 A 19901002 (199042)
US 4960715 A 19901002 (199042)
EP 174195 B 19910807 (199132)
R: AT BE CH DE FR GB IT LI LU NL SE
DE 3583716 G 19910912 (199138)
ADT EP 174195 A EP 1985-306302 19850905; JP 61076958 A JP 1985-196856 19850905; ZA 8506820 A ZA 1985-6820 19850905; US 4745075 A US 1985-769597 19850826; US 4960713 A US 1988-160148 19880225; US 4960714 A US 1988-160149 19880225; US 4960715 A US 1988-161014 19880225
PRAI **GB 1984-22512 19840906; GB 1985-17477 19850710**
REP EP 32270; EP 70527
IC A61K039-00; G01N033-54
AB EP 174195 A UPAB: 19930922
An agglutination method for the detection of a liqand or gp. of ligands in a medium comprises mixing the medium with a reagent containing 2 or more insoluble coloured substances, each substance being adapted to form a distinctively coloured agglutinate in the presence of a specific ligand or gp. of ligands and determining the presence of the ligand by establishing whether or not the distinctively coloured agglutinate has formed.

In a test kit the reagent may contain (i) an antibody bindable to the ligand, the antibody being insolubilised by attachment to a particle of a first colour and (ii) a particle of a second colour coated with control serum.

USE/ADVANTAGE - The method is especially useful for the detection of bacterial, viral and parasitic infections and identification of antigen or antibody in biological fluids. It is partic. useful in analysis of spinal fluid (e.g. neonatal spinal fluid) for such species as Haemophilus influenzae, Neisseria meningitidis and Streptococcus pneumoniae. A reduced volume of spinal fluid is required. The method is also useful for the identification of serologically distinct strains e.g. Streptococcal serogroups A, B, C, D, F and G, Salmonella O or H antigens and Meningococci serogroups A, B, C, Y, 29E and Z. 0/0
FS CPI EPI
FA AB
MC CPI: B04-B02B; B04-B04C; B04-B04D1; B04-B04D4; B04-B04H; B04-C02D; B04-C03B; B05-A01B; B05-B02C; B07-A02; B11-C07A2; B12-K04A4; J04-B01B
EPI: S03-E14H4

L171 ANSWER 23 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 1983-30011K [13] WPIX
DNN N1983-054241 DNC C1983-029331
TI Pregnancy detection using immobilised lectin - to bind human chorionic gonadotropin in urine, and colour reagent including anti-HCG antibodies.
DC B04 J04 S03
IN SULITZEANU, B
PA (TEVA-N) TEVA PHARM IND LTD
CYC 19

PI EP 74520 A 19830323 (198313)* EN 20
R: AT BE CH DE FR GB IT LI LU NL SE
AU 8287117 A 19830324 (198320)
JP 58062563 A 19830414 (198321)
ZA 8205842 A 19830506 (198330)
BR 8205357 A 19830823 (198351)
ES 8401262 A 19840216 (198418)
IL 63855 A 19841031 (198506)
US 4508829 A 19850402 (198516)
CA 1185176 A 19850409 (198519)
EP 74520 B 19850911 (198537) EN
R: AT BE CH DE FR GB IT LI LU NL SE
DE 3266200 G 19851017 (198543)
ADT EP 74520 A EP 1982-107709 19820823; US 4508829 A US 1982-409053 19820818
PRAI **IL 1981-63855 19810916**
REP GB 1036592; GB 1155365; GB 1563299
IC G01N033-76
AB EP 74520 A UPAB: 19930925
Method for detecting pregnancy comprises (1) contacting a urine saple with a lectin (I) bound to a solid support and capable of binding HCG (human chorionic Gonadotropin); (2) separating the lectin substrate; (3) contacting this with a colour reagent consisting of coloured carier and anti-HCG antibodies and (4) separating the substrate from the colour reagents.

Particularly (I) is concanaValin A (Ia) or wheat gem, lentil or soyabean lectins and the substrate is especially 'Sepharose' (RTM) gel. The pref. colour reagent comprises killed and stained Staphylococci cells in aqueous suspension. Also claimed is a kit for carying out this test.

This test can detect pregnancy in its early stages (e.g. after 6 days) nd is simple enough for the subject to carry out herself. The test takes only 10-20 min. and because a relatiVely large amount of HCG is bonded to the substrate is several ties ore sensitive than commercial non-radioactive methods. The false positiVe rate is less than 1% and in a trial inVolving 690 subjects there were no false negatiVes.

FS CPI EPI
FA AB
MC CPI: B04-A07F; B04-B02B; B04-B02D; B04-B04A; B04-B04B; B04-B04C; B11-C07A; B12-K04; J04-B01; J04-C04
EPI: S03-E14H4; S03-E14H9

L171 ANSWER 1 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN DUPLICATE 1
AN 2003-810338 [76] WPIX
CR 2001-281091 [29]
DNN N2003-648818 DNC C2003-224929
TI Vial pack/compartment cover comprises plug portions formed from heat curable **rubber** and joined together to form surface of cover, and barrier layer, which releasably seals compartment when cover fully engages compartment.
DC A14 A17 A26 A89 B04 D16 J04 Q32 Q33
IN REO, N J
PA (SPEC-N) SPECIALTY SILICONE PROD INC
CYC 1
PI US 6558628 B1 20030506 (200376)* 13 B01L003-02
ADT US 6558628 B1 US 1999-263308 19990305
PRAI **US 1999-263308 19990305**
IC ICM B01L003-02
ICS B01L003-00; B01L009-00; B29C059-00; B65D017-30; B65D017-50; B65D039-00; B65D041-00; B65D043-00; B65D047-00; B65D051-18; C12M001-22; C12M003-00
AB US 6558628 B UPAB: 20031125
NOVELTY - Vial pack/compartment cover comprising plug portions formed from a heat curable **rubber** and joined together to form a surface of the cover, and a barrier layer (50) which covers the surface of the cover, is new. When the cover fully engages the compartment, only the barrier layer releasably seals the compartment.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) forming the novel cover, comprising:

(a) providing a heat curable **rubber** cover for an at least one compartment (34), where the cover (36) includes a support sheet having a bottom surface and plugs portions on the bottom surface;

(b) covering the plug portions and the bottom surface with a non- **rubber** barrier layer, without using a interfacial layer of adhesive between the cover and the barrier layer; and

(c) covering the compartment with the cover by fully engaging the cover with the compartments; and

(2) a kit comprising a pack including several compartments open to a surface of the pack; and the novel cover.

USE - For covering compartments of or containers within a vial pack, used for simultaneously testing several reactions in the medical, analytical chemistry, and biotechnology field.

ADVANTAGE - The novel vial pack cover allows a user to simultaneously cover several containers, while allowing the user to access an individual container without having to remove the cover from the vial pack, thus avoiding spillage of the samples in the vial pack, and preventing the contents of the containers from degrading or permeating through the cover.

DESCRIPTION OF DRAWING(S) - The drawing is a partial side view of a vial pack cover prior to engaging a vial pack. Vial 32
Compartment 34
Cover 36

Barrier layer 50.

Dwg.6/7

TECH US 6558628 B1 UPTX: 20031125

TECHNOLOGY FOCUS - POLYMERS - Preferred Materials: The heat curable **rubber** is silicone **rubber**, silicone **elastomer**, organic **elastomer**, Viton (RTM), Sanoprene (RTM), or ethylene propylene diene monomer (EPDM). It is re-sealable. The barrier layer includes polytetrafluoroethylene.

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Device: The plug portions are needle penetrable. The cover further comprises ribbing extending between the plug portions and extending around the periphery of a support sheet. The compartments further comprise containers placed into the openings of the pack. Each plug portion releasably engages a vial (32). The kit further comprises a device for removing individual plug portions from the kit.

KW [1] 184619-0-0-0 CL USE; 184613-0-0-0 CL USE; 104333-0-0-0 CL USE
FS CPI GMPI
FA AB; GI; DCN
MC CPI: A12-L04; A12-P03; B04-C03; B11-C08; B12-K04E; D05-H09; J04-B
DRN 0975-U
PLE UPA 20031125
[1.1] 018; P1445-R F81 Si 4A; H0124-R
[1.2] 018; G0817-R D01 D51 D54; R00326 G0044 G0033 G0022 D01 D02 D12

L171 ANSWER 2 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 2002-673340 [72] WPIX
DNN N2002-532300 DNC C2002-189676
TI Packaging method of carton containing pharmaceutical contents, involves applying thermal memory foam material in compressed state around article in carton, which provides external indication of heat damage.
DC A92 Q31
IN ANDERSON, D W
PA (ANDE-I) ANDERSON D W; (INTO) INT PAPER CO
CYC 1
PI US 2002073654 A1 20020620 (200272)* 10 B65B013-20
US 6532720 B2 20030318 (200322) B65B023-22
ADT US 2002073654 A1 Provisional US 2000-256239P 20001215, US 2001-797455 20010301; US 6532720 B2 Provisional US 2000-256239P 20001215, US 2001-797455 20010301
PRAI **US 2000-256239P 20001215; US 2001-797455 20010301**
IC ICM B65B013-20; B65B023-22
ICS B65B003-04
AB US2002073654 A UPAB: 20021108

NOVELTY - Cellular foam material having thermal memory characteristics at a glass transition temperature (Tg) is applied in its compressed state around an article in a carton, leaving a free space in carton. When a temperature exceeding Tg is applied to the carton, the foam material is re-expanded to its original volume to indicate exposure to temperature above predetermined threshold temperature.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for heat damage indicator.

USE - For preventing damage to heat sensitive articles such as bottle, vial or carton containing pharmaceuticals, food, beverages, medical packaging e.g. vaccines, medicines.

ADVANTAGE - The use of thermal memory foam provides a clear and distinctive indication that the contents of the package have been exposed to temperature greater than recommended or considered safe.

DESCRIPTION OF DRAWING(S) - The figure shows the thermal memory cycle of original shape (volume), compaction to a densified shape (volume) and a shape restoration of the cold hibernation elastic memory foam material. Dwg.1/5

TECH US 2002073654 A1UPTX: 20021108
TECHNOLOGY FOCUS - POLYMERS - Preferred Composition: The cellular foam material is a polyurethane-based **thermoplastic** polymer produced from butadiene liquid polymer, and activated and sulfur monochloride.

FS CPI GMPI
FA AB; GI
MC CPI: A09-A01A; A12-P06B; A12-S02A
PLE UPA 20021108
[1.1] 018; G1069 G1025 G0997 D01 F28 F26 D12 D10 D51-R H0204; H0011-R; P1605 P1592 F77 H0011 D01; P1592-R F77 D01; S9999 S1309-R
[1.2] 018; ND01; Q9999 Q8468 Q8399 Q8366; B9999 B5505-R; B9999 B5618 B5572; B9999 B3894 B3838 B3747; B9999 B3178; Q9999 Q7589-R; Q9999 Q7987-R; Q9999 Q9030
[2.1] 018; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58 D84; H0000; S9999 S1376; M9999 M2153-R; M9999 M2324; H0191; P0328; P0339

L171 ANSWER 3 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2002-055493 [07] WPIX
DNN N2002-040883 DNC C2002-015905
TI Non-discreet thermosensitive composition for providing reversible visual indication of prevailing temperature comprises thermochromic dye dispersed within hardened matrix-forming resin.
DC A89 P81 S03
IN CUSICK, J; DISALVO, G D
PA (DISA-I) DISALVO G D; (CUSI-I) CUSICK J
CYC 94
PI WO 2001084223 A1 20011108 (200207)* EN 13 G02F001-00
AU 2001059308 A 20011112 (200222)
US 6773637 B1 20040810 (200453) G02F001-00
ADT WO 2001084223 A1 WO 2001-US14006 20010501; AU 2001059308 A AU 2001-59308 20010501; US 6773637 B1 US 2000-563158 20000501
FDT AU 2001059308 A Based on WO 2001084223
PRAI **US 2000-563158 20000501**
IC ICM G02F001-00
ICS G01K011-00; G01N031-00; G02B005-23
AB WO 200184223 A UPAB: 20020130
NOVELTY - Non-discreet thermosensitive composition for detecting the prevailing temperature comprises a thermochromic dye dispersed within a hardened matrix-forming resin

USE - The composition is used for providing a reversible visual indication of the prevailing temperature, particularly to detect when the temperature is within a particular range. It can be used as an indicator that indicates when the temperature of a refrigerator or other food storage container rises above 40-45 deg. F, which is the optimum temperature range for storage of food. It can be applied to a painted or unpainted plastic, ceramic, glass, or metal substrate which is then placed in the refrigerator, or can be applied directly to the refrigerator wall or shelf as a magnetic strip. It can also be used with outdoor faucets and valves to indicate that the freezing point is approaching. It can be applied directly to the valve or faucet, or can be coated on a metal, ceramic, glass, or plastic substrate which can be attached to the valve or faucet. It is constructed as a flange that is affixed to the exterior or attached to the outside of an outdoor faucet and notifies the observer whether water in line is approaching the freezing point. The composition can also be used as a warning method for bridge surfaces or airplane wings, which are subject to freezing temperature in cold weather. It can also be used by farmers to sense and warn of oncoming frost or other cold temperatures that could damage crops.

ADVANTAGE - The inventive composition is simple to construct and use and possesses a unitary construction. It can sense the differences in the temperature of air currents that flow over the device, and thus is very sensitive to temperature differentials. It is capable of indicating the prevailing temperature in localized regions, with satisfactory degree of precession.
Dwg.0/0

TECH WO 200184223 A1UPTX: 20020130
TECHNOLOGY FOCUS - POLYMERS - Preferred Property: The dye undergoes a color change within 40-45degreesF. Preferred Resin: The matrix-forming resin includes epoxies, polyurethanes, polyamides, polyacrylates, styrenics, polyacetals, polyvinyl chlorides, polyvinyl acetates, polyvinyl alcohols, phenolic resins, acrylonitrile butadiene styrene resins, polyesters, polyolefins, polyamides, fluoropolymers, polyethers, poly(alkylene sulfides), **elastomers**, polyisobutylene, or their

mixtures. Preferred Component: The composition further comprises a hardener or a diluent.

ABEX WO 200184223 A1UPTX: 20020130
EXAMPLE - A brass coupon (1 inch wide, 2.5 inch long) was coated with dynacolor thermochromic red poster screen ink and allowed to dry at room temperature. The coated coupon with a light pink color was put in a jar of water and temperature of water was lowered from room temperature by addition of ice. When the temperature reached 42degreesF, the color of the coated coupon began to darken to deep pink. At 40degreesF the color of the coupon changed to a red color very distinct from the color seen at room temperature and above 42degreesF. When the coupon was allowed to rise above 42degreesF the color began to change and it became light pink after reaching 45degreesF. The coupon was placed in the refrigerator where it promptly turned a deep red. On removal from the refrigerator the coated coupon immediately began to lose the red color. When put back in the refrigerator it again turned red showing the reversible nature of the color change.

FS CPI EPI GMPI
FA AB
MC CPI: A12-R; A12-T03; A12-W03
EPI: S03-B01G
PLE UPA 20020130
[1.1] 018; P0464-R D01 D22 D42 F47
[1.2] 018; P1592-R F77 D01

L171 ANSWER 4 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2001-281091 [29] WPIX
CR 2003-810338 [76]
DNC C2001-085397
TI Production of a vial pack cover and kit, useful for simultaneously covering containers while preventing their contents from degrading or permeating through the cover.
DC A32 A89 B04 Q32 Q33
IN REO, N J
PA (REON-I) REO N J; (SPEC-N) SPECIALTY SILICONE PROD INC
CYC 1
PI US 2001000635 A1 20010503 (200129)* 13 B29C041-22
US 6613283 B2 20030902 (200359) B01L003-00
ADT US 2001000635 A1 Div ex US 1999-263308 19990305, US 2001-752933 20010102;
US 6613283 B2 Div ex US 1999-263308 19990305, US 2001-752933 20010102
PRAI **US 1999-263308 19990305; US 2001-752933 20010102**
IC ICM B01L003-00; B29C041-22
ICS B29B009-00; B29B017-00; B65D017-50; B65D051-18; C12M001-02; C12M003-00
AB US2001000635 A UPAB: 20031125
NOVELTY - A vial pack cover that will allow a user to simultaneously cover containers without concern for the cover being degraded or permeated by the container contents, but also allow for access from individual containers without having to remove the cover from unaccessed containers, is new.
DETAILED DESCRIPTION - Forming a coated vial pack cover comprises:
(a) providing a barrier layer on a mold containing cavities within it;
(b) providing heat-curable **rubber** to the mold;
(c) forming a vial pack cover including pug portions coated with the barrier layer; and
(d) removing the vial pack cover from the mold.
INDEPENDENT CLAIMS are also included for using a heat-curable **rubber** as a cover for the vial pack. Also, the vial pack cover itself, and a vial pack kit.
USE - The cover is useful for enclosing vial packs in the medical, analytical chemistry and biotechnology field which are used for simultaneously testing multiple reactions
ADVANTAGE - The cover allows a user to access individual containers without having to remove the cover from unaccessed containers. Dwg.0/7
TECH US 2001000635 A1UPTX: 20010528
TECHNOLOGY FOCUS - POLYMERS - Preferred Composition: The barrier layer is polytetrafluoroethylene (PTFE) or aluminum. The barrier layer is formed by being sprayed onto a mold which has been heated to 350 degrees F, optionally with 500 psi pressure being applied. The heat-curable **rubber** used is silicone **rubber**. Plug portions are formed from a heat-curable **rubber**, and are needle-penetrable. The heat-curable **rubber** is resealable. The cover may include ribbing extending between the plug portions, and optionally around the periphery of the support sheet of the vial pack cover.
ABEX US 2001000635 A1UPTX: 20010528
EXAMPLE - In the process, the mold was preheated to 340 degrees F. Preforms of silicone rubber of thickness 0.200 inch were provided, and cut to 1.5 inch widths and 3 inch lengths weighing 24 g.

The bottom of the mold was sprayed with PTFE. The part was molded using 20 tons on the lab press and 3000 psi on the lab extension press. The molding was performed using a 5 minutes cycle time. The molded parts were removed from the mold, and another preform(s) was inserted for the next cycle. The cycle was then repeated.

KW [1] 104333-0-0-0 CL; 107017-0-0-0 CL; 135413-0-0-0 CL; 110-0-0-0 CL
FS CPI GMPI
FA AB; DCN
MC CPI: A06-A00E; A11-B05B1; A11-B11; A11-C02D; A11-C04B1; A12-L04; A12-P03; A12-V03; A12-W11L; B11-C03; B11-C06; B11-C06A
DRN 0975-U
PLE UPA 20031125
[1.1] 018; S9999 S1434; H0124-R; P1445-R F81 Si 4A; L9999 L2391; L9999 L2073; M9999 M2073; S9999 S1581; S9999 S1536-R
[1.2] 018; ND01; ND07; K9416; N9999 N6440-R; N9999 N7067 N7034 N7023; N9999 N6177-R; Q9999 Q8399-R Q8366; Q9999 Q8388 Q8366; Q9999 Q7794-R; Q9999 Q7874; Q9999 Q7987-R; Q9999 Q8082; K9574 K9483; K9687 K9676; K9712 K9676; N9999 N7147 N7034 N7023; N9999 N6462 N6440; B9999 B4568-R; Q9999 Q9018; K9676-R; N9999 N6213 N6177; N9999 N6359 N6337
[1.3] 018; B9999 B4988-R B4977 B4740; N9999 N7090 N7034 N7023; B9999

L171 ANSWER 5 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN
AN 2000-363454 [31] WPIX
CR 1996-288677 [30]
DNN N2000-271830 DNC C2000-109738
TI Insulating container for transporting and storing thermally sensitive materials, eg. pharmaceuticals, has heat sinks acting on top and bottom chambers containing a panel for holding vials in an array of apertures.
DC A11 A97 B07 G04 Q75
IN CANSFIELD, K T; COOK, S L; KENYON, D J; VILLA, J N
PA (JOHJ) JOHNSON & JOHNSON; (TCPR-N) TCP/RELIABLE INC
CYC 1
PI US 6044650 A 20000404 (200031)* 12 F25D003-08
ADT US 6044650 A CIP of US 1994-359802 19941220, US 1997-910392 19970813
PRAI **US 1997-910392 19970813; US 1994-359802 19941220**
IC ICM F25D003-08
AB US 6044650 A UPAB: 20000630
NOVELTY - The container has walls integrally formed with a base, a lid nesting within the open end and an insulating insert (68) on the inside walls. A step-shaped panel divides the container into top and bottom chambers (40,42), each filled with gas, eg. air, and served by a heat sink (34,24) comprised of a phase change material, in the lid and base respectively. The panel has an array of apertures for receiving vials and a central aperture for a temperature indicator casing (76).

USE - For maintaining thermally sensitive materials, eg. biologically active proteins, medicaments and pharmaceuticals, at an essentially constant temperature during transport and storage, eg. during storage prior to loading on an aircraft and exposure to sub-freezing temperatures during flight.

ADVANTAGE - The **thermoplastic** walls and lid provide a first barrier to prevent temperature changes within the container. The insulating insert also contributes a shock absorbing component to the container. The equidistant spacing of vials around the central aperture provides a true reading of temperature ranges affecting the vials. The temperature indicator alerts a user to any exposure of the vials to temperatures below the freezing point of the contained liquid or above the temperature necessary to maintain stability.

DESCRIPTION OF DRAWING(S) - The drawing shows an elevational view of the container partially cut away.

Base heat sink 24
Lid heat sink 34
Top chamber 40
Bottom chamber 42
Insulating insert 68
Temperature indicator casing. 76 Dwg.2/11

TECH US 6044650 A UPTX: 20000630
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - The phase change material is preferably carboxymethylcellulose and water. Other suitable materials include phenols, glycols, starches and alcohols. The temperature indicator is of the type which undergoes a color change when exposed to temperatures above or below a specified value, eg. a clear liquid mixture of octyl caprate and hexyl laurate, separated from a mixture of iso-amyl laurate and violet dye by an ethylene glycol liquid barrier, in a capillary tube

and bulb with a frangible portion which breaks on liquid freezing and expansion.

TECHNOLOGY FOCUS - POLYMERS - The container is preferably made of **thermoplastic**, eg. injection molded or thermoformed PVC. The insulating insert is preferably a closed cell foam material, eg. PVC or polyurethane.

KW [1] 184613-0-0-0 CL; 104494-0-0-0 CL; 104486-0-0-0 CL; 184616-0-0-0 CL; 96913-0-0-0 CL; 279411-0-0-0 CL; 279415-0-0-0 CL; 21-0-0-0 CL
FS CPI GMPI
FA AB; GI; DCN
MC CPI: A03-A04A; A04-E02E; A12-P03; A12-P06B; A12-S04C; B04-C02A2; B04-C02B; B04-C03B; B04-C03D; B04-N04; B10-E02; B10-E04; B11-C06; B12-M04; G04-B01
DRN 0822-U
PLE UPA 20000630
[1.1] 018; R00338 G0544 G0022 D01 D12 D10 D51 D53 D58 D69 D82 Cl 7A; H0000; S9999 S1581; S9999 S1434; H0317; S9999 S1310-R S1309; P1796 P1809
[1.2] 018; ND01; Q9999 Q8399-R Q8366; K9416

L171 ANSWER 6 OF 23 WPIX COPYRIGHT THE THOMSON CORP on STN DUPLICATE 2
AN 1997-309446 [28] WPIX
DNN N1997-256449
TI Carbon dioxide absorbent depletion indicator for anaesthetic gas administration system - has temperature indicator which is calibrated permanently to undergo change of colour at temperature of absorbent indicative of extensive exhaustion of absorbent due to carbon dioxide absorption.
DC S03
IN MCDONALD, L; MCDONALD, S; TOMLINSON, B; TOMLINSON, J
PA (MCDO-I) MCDONALD L; (MCDO-I) MCDONALD S; (TOML-I) TOMLINSON B; (TOML-I) TOMLINSON J
CYC 1
PI US 5634426 A 19970603 (199728)* 4 G01K011-12
ADT US 5634426 A US 1995-393088 19950222
PRAI **US 1995-393088 19950222**
IC ICM G01K011-12
AB US 5634426 A UPAB: 19970709
The device includes a canister having a carbon dioxide absorbent held therein. An indicator is provided for the canister to determine when the carbon dioxide absorbent is exhausted. The indicator is in the form of at least one **wax** temperature indicator calibrated permanently to undergo change of colour at a temperature of the absorbent indicative of extensive exhaustion of the absorbent due to carbon dioxide absorption. The absorbent is selected from the group consisting of soda linac and baralyme.
ADVANTAGE - Provides more reliable indicator indicating exhaustion or developing exhaustion of absorbent in anaesthetic gas administration system.
Dwg.1/5
FS EPI
FA AB; GI
MC EPI: S03-B01; S03-B01E

L171 ANSWER 7 OF 23 HCAPLUS COPYRIGHT ACS on STN
AN 1996:73291 HCAPLUS
DN 124:99231
ED Entered STN: 03 Feb 1996
TI Temperature indicating device and composition for this use
IN Hof, Craig R.
PA PyMaH Corp., USA

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	**EP 684463**	**A1**	**19951129**	**EP 1995-303099**	**19950505 <--**
	US 5816707	**A**	**19981006**	**US 1995-425162**	**19950426 <--**

PATENT FAMILY INFORMATION:
FAN 1998:653521

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5816707	A	19981006	US 1995-425162	19950426
	CA 2148554	AA	19951107	CA 1995-2148554	19950503
	AU 9517884	A1	19951207	AU 1995-17884	19950504

AU 690226	B2	19980423		
EP 684463	A1	19951129	EP 1995-303099	19950505
JP 08068701	A2	19960312	JP 1995-109718	19950508
JP 3032700	B2	20000417		
US 6241385	B1	20010605	US 1998-93299	19980608
US 6420184	B1	20020716	US 1998-93298	19980608

AB A composition for use in a reversible thermometer comprising a thermally responsive material capable of being supercooled for several minutes, and of changing state from solid to liquid at a predetd. temperature, means for visually observing the change in state, and a matrix forming material in which the thermally responsive material is dispersed, the matrix material comprising an amorphous organic compound, and being insol. in the thermally responsive material. A suitable matrix material is polyisobutylene, and a suitable thermally responsive material is a solid solution of ortho-chloronitrobenzene and ortho-bromonitrobenzene.

IT Thermometers
(clin.; reversible thermometer and composition for this use)

IT Dyes
Supercooled materials
(reversible thermometer and composition for this use)

IT Alcohols, uses
(C16-22, emulsifying agent; reversible thermometer and composition for this use)

IT Acids, uses
(organic, reversible thermometer and composition for this use)

IT 36653-82-4, Cetyl alcohol
RL: DEV (Device component use); USES (Uses)
(emulsifying agent; reversible thermometer and composition for this use)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-27-4, Polyisobutylene
(matrix; reversible thermometer and composition for this use)

IT 84-65-1, 9,10-Anthraquinone
RL: DEV (Device component use); USES (Uses)
(**nucleating agent**; reversible thermometer and composition for this use)

IT 115-39-9, Bromphenol blue 115-40-2, Bromocresolpurple 605-91-4, Pinacyanol iodide 2800-80-8, Bromophenol red 87831-33-2, Ethyl red
(reversible thermometer and composition for this use)

IT 88-73-3D, O-Chloronitrobenzene, solid solution with o-bromonitrobenzene 99-94-5, p-Toluic acid 577-19-5D, o-Bromonitrobenzene, solid solution with o-chloronitrobenzene 636-98-6, p-Iodonitrobenzene 645-00-1
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(thermally responsive material; reversible thermometer and composition for this use)

23nov04 13:55:30 User259284 Session D2971.2

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File 610:Business Wire 1999-2004/Nov 22
File 613:PR Newswire 1999-2004/Nov 22
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Nov 23
File 649:Gale Group Newswire ASAP(TM) 2004/Nov 16
File 810:Business Wire 1986-1999/Feb 28
File 813:PR Newswire 1987-1999/Apr 30
File 9:Business & Industry(R) Jul/1994-2004/Nov 22
File 16:Gale Group PROMT(R) 1990-2004/Nov 23
File 47:Gale Group Magazine DB(TM) 1959-2004/Nov 23
File 80:TGG Aerospace/Def.Mkts(R) 1982-2004/Nov 23
File 93:TableBase(R) Sep 1997-2004/Nov W2
File 111:TGG Natl.Newspaper Index(SM) 1979-2004/Nov 19
File 112:UBM Industry News 1998-2004/Jan 27
File 116:Brands & Their Companies 2004/Sep
File 141:Readers Guide 1983-2004/Sep
File 148:Gale Group Trade & Industry DB 1976-2004/Nov 23
File 149:TGG Health&Wellness DB(SM) 1976-2004/Oct W5
File 160:Gale Group PROMT(R) 1972-1989
File 177:Adv.& Agency Red Books:Advertisers 2004/Nov
File 178:Adv.& Agency Red Books:Agencies 2004/Nov
File 188:Health Devices Sourcebook 2004
File 198:Health Devices Alerts(R) 1977-2004/Nov W1

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  File 211:Gale Group Newsearch(TM) 2004/Nov 23
  File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
  File 256:TecInfoSource 82-2004/Nov
  File 275:Gale Group Computer DB(TM) 1983-2004/Nov 23
  File 481:DELPHES Eur Bus 95-2004/Nov W1
  File 482:Newsweek 2000-2004/Nov 16
  File 484:Periodical Abs Plustext 1986-2004/Nov W2
  File 535:Thomas Register Online(R) -2004/Q3
  File 571:Piers Exports(US Ports) 2004/Nov W2
  File 573:Piers Imports(US Ports) 2004/Nov W2
  File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
  File 584:KOMPASS USA 2004/Jul
  File 585:KOMPASS Middle East/Africa/Mediterr 2004/Jul
  File 586:KOMPASS Latin America 2004/Jul
  File 590:KOMPASS Western Europe 2004/Jul
  File 592:KOMPASS Asia/Pacific 2004/Jul
  File 593:KOMPASS Central/Eastern Europe 2004/Jul
  File 609:Bridge World Markets 2000-2001/Oct 01
  File 636:Gale Group Newsletter DB(TM) 1987-2004/Nov 23
  File 646:Consumer Reports 1982-2004/Nov
  File 647:CMP  Computer Fulltext 1988-2004/Nov W2


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      S5     504  CO=KLT?
      S6       0  S5 AND THAW??????
      S7       4  S5 AND TEMPERATURE? ?
      S8       0  S5 AND THERMOMET??????
      S9       7  S4 OR S7
     S10       6  RD S9 (unique items)

DIALOG File 350:Derwent WPIX 1963-2004/UD,UM &UP=200475
       (c) 2004  Thomson Derwent

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       23nov04 14:00:16 User259284 Session D2971.4

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  File 613:PR Newswire 1999-2004/Nov 22
  File 621:Gale Group New Prod.Annou.(R) 1985-2004/Nov 23
  File 649:Gale Group Newswire ASAP(TM) 2004/Nov 16
  File 810:Business Wire 1986-1999/Feb 28
  File 813:PR Newswire 1987-1999/Apr 30
  File   9:Business & Industry(R) Jul/1994-2004/Nov 22
  File  16:Gale Group PROMT(R) 1990-2004/Nov 23
  File  47:Gale Group Magazine DB(TM) 1959-2004/Nov 23
  File  80:TGG Aerospace/Def.Mkts(R) 1982-2004/Nov 23
  File  93:TableBase(R) Sep 1997-2004/Nov W2
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File 593:KOMPASS Central/Eastern Europe 2004/Jul
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File 636:Gale Group Newsletter DB(TM) 1987-2004/Nov 23
File 646:Consumer Reports 1982-2004/Nov
File 647:CMP Computer Fulltext 1988-2004/Nov W2

Set	Items	Description
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